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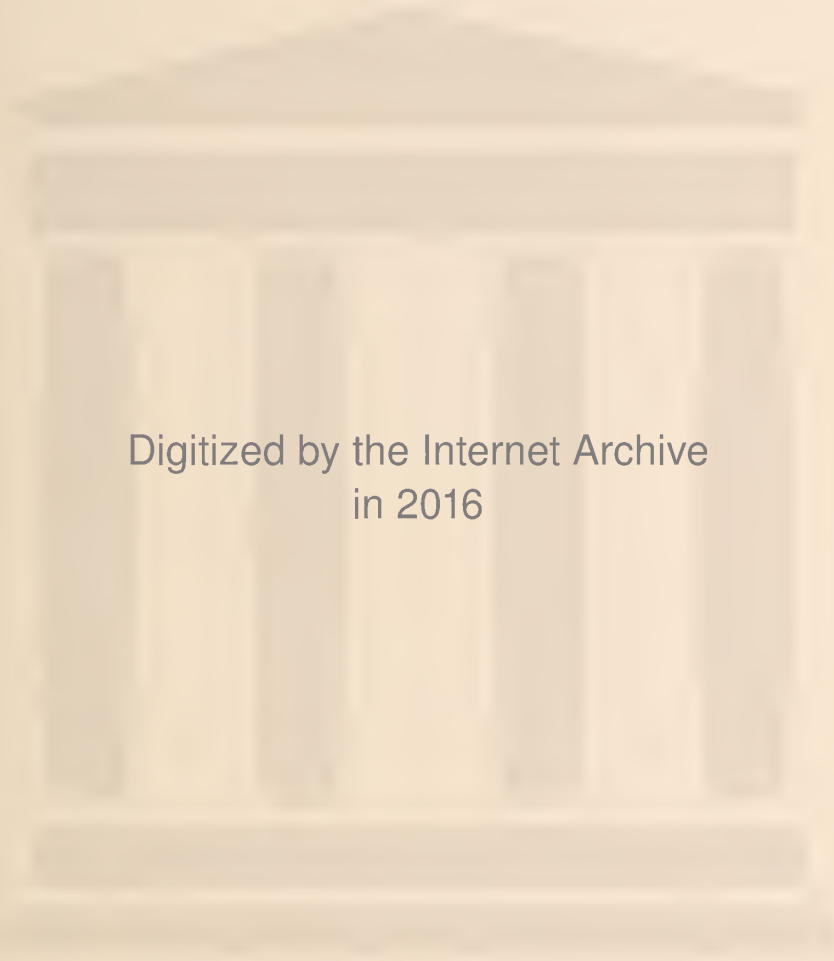
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SCIATIC PAIN AS AN ORTHOPEDIC SYMPTOM.

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[Read before the Ohio State Medical Association.

To the lay mind the term sciatica indicates merely a painful affection of the thigh; it is synonymous with long-continued and usually severe suffering. Unfortunately it happens only too frequently that even in the minds of medical men there is a conception of "sciatica" which is no less vague in character, and if in addition to the localization of the pain more or less closely to the neighborhood and course of the great sciatic along the back of the thigh there be associated a dolorous condition of the lumbar region or even of the anterior part of the thigh, the physician is frequently enough willing to satisfy himself and his patient by speaking of "sciatic rheumatism" instead of sciatica merely. It has always seemed to me that a part of this indefiniteness of diagnosis so often found in connection with sciatic pain is to be attributed to the fact that although the term sciatica or sciatic neuralgia is sanctioned by neurologists, there is even among them no perfectly definite understanding as to the clinical significance of neuralgia as distinct from neuritis, in which latter we have the unmistakable evidence of the existence of a true inflammatory process in the nerve or its sheath.

We have long been taught that many cases of so-called chronic sciatica are merely symptomatic indications of abnormal pressure upon the sciatic nerve; the sciatica of pregnancy and that caused by fibroid tumors of the uterus as well as other intra-pelvic growths being the best known of these. A priori it would seem likely that a chronic sciatica, existing for months or years in the absence of constitutional disease such as diabetes or syphilis or of chronic intoxication, such

as lead poisoning, must be attributable to some definite physical involvement of the nerve or the spinal radicles from which it is formed. Having been unable to assign the cause of a chronic sciatic pain to any of the above-mentioned factors, we have had to content ourselves in the past with the indefinite diagnosis of "sciatica" in many cases nevertheless. Unfortunately it must be acknowledged that there is still a certain number of cases in which the nature of a sciatica is a riddle defying our most painstaking efforts at its solution. I hope to be able to show, however, that a careful study of pathological anatomy, combined with the intelligent use of the X-ray makes it possible to reduce this undetermined quotient to very small proportions. To such an extent is this true that I have heard it said that in a certain metropolitan hospital fully 75% of the cases formerly treated in the neurological division, as cases of chronic sciatic neuralgia, are now transferred to the orthopedic wards, there to find quick relief as the result of accurate diagnosis and treatment based thereupon.

The recognition of the etiological importance of pelvic tumors and of the pressure of the pregnant uterus in the causation of many cases of long-continued and often severe sciatica was followed by a prompt appreciation of its intrapelvic origin in the sacral plexus of nerves. For the more complete understanding of the pathological possibilities with reference to the great sciatic nerve, we must, however, examine more deeply into its anatomy. Upon so doing we shall at once come upon the fact that the great sciatic nerve is made up not only from the first, second and greater part of the third sacral nerves, but also in very great degree from the lumbo sacral cord, which in its turn is composed of the union of part of the fourth and the whole of the fifth lumbar nerves. The sacral plexus is formed upon the anterior surface of the pyriformis muscle in the pelvis; in passing from their points of emergence from the spine the component parts of the lumbo sacral cord lie closely in front of the sacro-iliac joints. Since the fourth lumbar nerve emerges

from the foramen made by the fourth and fifth lumbar vertebrae, and since this is the highest point from which the great sciatic receives spinal root fibres, it may be seen that in the course of the lumbo sacral cord, from the origin of the fourth lumbar nerve to the emergence of the first sacral nerve, we have a tract in which fibres to be found ultimately in the make-up of the great sciatic nerve may be subjected to various pathological conditions and therefore give rise to painful sensations along its course. As will be shown later this region has received but scant attention

the sciatic nerve led him to examine the region of the sacro-iliac joint and thereby to diagnose a traumatic lesion of this articulation. A considerable number of authors have not failed to mention intense sciatic pain as a symptom of tuberculous disease of the sacro-iliac joint. They give to this symptom, however, a subsidiary position in the diagnosis.

Since we have been able to utilize the X-ray in the finer analysis of the lesions of the spine and pelvic articulations, these have been thereby illuminated in a most instructive and even unexpected



Fig. 1. Radiogram of a case of hypertrophic arthritis of lumbar spine and sacro-iliac joint.

until recently, for the reason that it was not possible to recognize with definiteness the pathological conditions affecting these inaccessible parts; this difficulty has been largely overcome by means of the X-ray and the study of the sacro-iliac joint made by Goldthwait and Osgood. At the same time it must be said that for very long it has been here and there recognized that sciatic pain may be a symptom in disease and injury of the sacro-iliac joint. Thus Hilton (in "Rest and Pain," page 246; Wood & Co., 1879), records a case in which severe pain in the distribution of

manner. We have thus been given a new clinical conception of that condition variously known as arthritis deformans, or osteo arthritis of the spine, as spondylitis deformans, etc. Again, to Goldthwait are we largely indebted for a most instructive study of this condition in both its pathological and clinical aspects. Long known to clinicians in its terminal phases and most pronounced forms, it had been recognized *intra vitam* only when the movements of the spinal column had been virtually extinguished by the practical fusion of its segments or when the spinal lesions

had appeared in company with deforming processes of undeniable character in the peripheral joints. We now know that the so called hypertrophic arthritis frequently appears in the spine without other joint involvement; that it may here assume most chronic forms; that it frequently comes to a pause spontaneously without having impaired spinal mobility more than partially. We have also learned that in its fundamental characteristics it does not differ from hypertrophic arthritis of the peripheral joints, now so thoroughly studied by the X-ray, even though its etiology be still enshrouded in darkness. We do know, however, that it is essentially an irritative lesion, beginning with nodular inflammatory infiltrations of the edges of the joint which later become organized and finally ossified so that impairment of motion is caused by the mechanical effect of the osteophytes. While in the peripheral joints true ankylosis by obliteration of the joint surfaces does not occur in this disease, in the spine the end result is often complete loss of motion, so that the spinal column may become fused into a single absolutely rigid rod from one extremity to the other. The more frequent occurrence of forms less grave than this is now fully recognized and likewise the fact that one segment of the column may be involved to the practical exclusion of the others. Of the symptoms thus produced, none is more important, nor indeed more distressing, than the neuralgia caused by the involvement of the nerve roots in the infiltrations about the intervertebral foramina. While causing intercostal neuralgias, lumbago and anterior crural neuralgias when involving the dorsal and upper lumbar regions, this hypertrophic spondylitis is a frequent cause of sciatic pain when the fourth and fifth lumbar vertebræ are affected. This is especially apt to be true since the sacro-iliac joint is very often similarly affected with them. According to the site and extent of the infiltrations we may thus have neuralgias appearing in the sciatic trunk or in the terminal divisions of its branches, the tibial and peroneal nerves. Aside from the pain we have, in the case of lumbar involvement, impairment of motion in lateral flexion is the chief clinical sign; in the case of the sacro-iliac joint, impaired flexion of the hip, when the knee is fully extended and the patient standing on the sound limb, is most characteristic. The voluntary attempt at this maneuver is also frequently provocative of increased pain and pain referred to the sacro-iliac joint. Our chief reliance in diagnosis, must, however, be placed in the radiogram; the finding here of the osteophytic nodes, of the "lipping" of the vertebral bodies and their

more or less complete fusion with one another. We must not fail to remember, however, that the bony nodes are no measure of the *amount* of infiltration which is present. The value of their discovery lies in its aid to differential diagnosis.

Cases of the kind just described are by no means infrequent, but it is unfortunately true that their real nature is not sufficiently often recognized at the present time. I present the history of a rather typical case, in the person of a merchant 52 years of age, who has had trouble with his left limb for the past seven or eight years. He has been under the care of a number of physicians both at home and abroad, and has been told at various times that he was suffering from muscular rheumatism, lumbago and sciatica. At various times he has had attacks of pain almost always involving the back of the left thigh and very often also the lowest portion of the spine. Frequently these attacks compelled his remaining in bed for a number of days, in which the stiffness and pain greatly subsided. However, he states that at no time during the last six years has his left lower extremity felt like the right. He was always conscious of a decided weakness here. His health has otherwise been fairly good, and there is at the present day no evidence of organic disease in his internal organs. His urine is free from sugar and albumin; he is neurotic to some extent. Upon examination he seemed to be a well-developed man of average height and of good nutrition. It is at once apparent that his posture is peculiar and that there is a deviation of the trunk slightly toward the right side. As he walks there is an indefinable suggestion of stiffness in the carriage of the trunk. The examination in the interval between his acute attacks there is seen to be quite marked limitation of the lateral flexion of the spine to both sides but particularly the right side. Forward bending also is not quite as free as it should be. Flexion of the left hip with knee extended, the patient standing on the opposite foot, is less by fully fifteen degrees than that of the right when the maneuver is reversed. There is, perceptible diminution in the circumference of the left lower extremity at all points as compared with the right. Pressure upon the spinous processes of the vertebræ is nowhere painful. When this is made to either side of the lower lumbar spine, tenderness is elicited. When examined during an acute attack, all of these symptoms are intensified. There is now no difficulty in bringing out tenderness of the sciatic trunk in the thigh. Great stiffness and pain are now apparent upon attempting any movement. A most distressing symptom is an intense neuralgic

pain about the external malleolus. There is here no swelling or tenderness. The X-ray examination (Fig. I) shows that the lumbar segment is the seat of the so-called hypertrophic spondylitis, which is made apparent by the appearance of bony nodes at the margin of the third, fourth and fifth lumbar vertebræ. A particularly noticeable enlargement is found at the articulation between the fourth and fifth lumbar vertebræ on the



Fig. II. Photograph of a case of "Sciatic Scoliosis."

right side. A second X-ray plate, showing both sacro-iliac joints was made. This demonstrates that the line representing the anterior limit of the articulation on the left side has partly disappeared. This would apparently indicate a fusion here. The picture is therefore that of hypertrophic disease both of the lumbar spine and the left sacro-iliac joint, and the symptoms are such as would be easily explained by this finding.

By the radiogram, however, we have also been made acquainted with other pathologic conditions affecting the lowermost portion of the spine and which may similarly operate to produce sciatic pain. Such are the various forms of productive periostitis resulting from metastasis in infectious diseases of other parts. Baer has reported such of gonorrheal origin. I present herewith the report of a case following typhoid fever in a man of 28, and which is unique in my experience. Two weeks after recovery from a typhoid of quite ordinary kind and degree, the patient complained of stiffness and extreme weakness in the

lumbar region. He was soon compelled to again keep his bed. After a few weeks he recovered sufficiently to be about, although he now suffered from pain in both gluteal regions and in both thighs along the course of the sciatic. I saw him a year after his typhoid. Although able to come to my office, he moved with extreme care, holding his back entirely rigid and very like a patient with acute Pott's disease. The lumbar region was very flat and lateral motion possible here to a slight extent only. He was somewhat tender to pressure on either side of the whole lumbar segment. Pain in the back has never been very severe. The reverse has at times been true of the gluteal and sciatic pains. The radiogram shows marked disease between the bodies of the third and fourth lumbar and also in the body of the fifth. A process of new bone has formed between the third and fourth lumbar bodies and on both sides of them. There is no evidence of sacro-iliac involvement. Immobilization by plaster of paris resulted in prompt amelioration; the patient is still under treatment.

In addition to such infectious bone formations, anomalous processes of bone may be found in this region, so placed as to press upon the lumbosacral cord or its spinal radicles. Thus Baer has reported a case of rudimentary rib formation from the fifth lumbar which caused an intractable sciatica of very long standing. It was discovered radiographically and its removal by operation was followed by complete cure. It is very likely that with increasingly frequent resort to the X-ray in doubtful cases the reports of such instances will in the future become more numerous.

Most interesting in connection with the above-mentioned considerations is a group of cases hitherto described under the title of "Sciatic Scoliosis" or "neuro muscular scoliosis." These have, for the most part been described as occurring in middle-aged individuals who have been suffering from sciatic pain in one or both limbs for months or even years. Frequently, in fact as a rule sooner or later, the painful area extended to the distribution of the lumbar plexus also, and occasionally even higher up as far as the cervical region. The lateral deformity of the spine which gradually developed gave the name to this symptom complex, which today would seem identical with that of hypertrophic osteo-arthritis of the spine and sacro-iliac joints. Indeed, the case of which a photograph is herewith presented and which was observed about nine years ago would seem to be of this kind beyond doubt. Unfortunately at that time the radiographic study of these

cases was not yet feasible and this conclusive proof is therefore lacking.

The case (Fig. II) was that of a carpenter 48 years of age who had suffered for about one year from intense sciatica in the right thigh and leg; to this there was later added great pain in the lumbar regions, on both sides of the spine and occasionally in the distribution of the anterior crural nerve. There was some tenderness to either side of the lumbar spine and motion in the lateral flexions was decidedly limited. A plaster jacket was applied and gave immense relief. The patient left the hospital wearing this and was then lost sight of. Viewed in the light of today's knowledge, I have no hesitation in placing this case, together with a similar one observed shortly afterwards, in the category of hypertrophic disease of the spine and sacro-iliac joint.

The close anatomical relationship existing between the lumbo-sacral cord and the sacro-iliac joint, above referred to, will account for the fact that sciatic pain is so frequent a symptom of all of the affections of this joint. Formerly regarded as an unusual source of trouble, we now know this large joint to be subject to all the disturbances, infectious, traumatic and otherwise, common to the more accessible joints of the body. Best known of these, of course, is tuberculosis. For this very reason it will require no special consideration at this time except to say that the frequent occurrence of sciatica as a symptom has been given due prominence by many authors.

Whereas among the anatomists of a generation ago there was still dispute as to the nature of the sacro-iliac articulation and its function, there is at the present day no longer any question of its being normally a joint with synovial lining and possessing a restricted amount of movement upon a transverse axis. It is not surprising to learn, in view of this fact, that the sacro-iliac joint is subject to practically all of the pathological conditions found in the other joints of the body, even though this be much less frequently the case because of the limited degree of motion inherent to it, and because of its protected position and exceedingly strong ligamentous support. It has been observed above that in osteo-arthritis of the lower lumbar spine the sacro-iliac joints are very likely to be the seat of the same disease, and mention has been made of the principal clinical sign by which it may be recognized.

The explanation of this phenomenon is as follows: Since the patient is standing upon the well limb, the ilium of this side is fixed by the anterior and posterior muscles of the hip. In attempting to flex the hip of the affected side, the

knee being fully extended, the hamstrings thereby pull upon the tuberosity of the ischium. The tendency is thus to tilt the innominate bone of this side, forward below and backward above. This will, of necessity, involve motion at the sacro-iliac joint of this side, which is painful if a pathological condition is there present. Even if pain is not produced, the flexion of the hip will be checked by muscular spasm when it has arrived at a point short of the normal limit. In addition to these and any other inflammatory diseases to which the sacro-iliac joint may be subject, there are two other conditions of the joint to which attention should be drawn, since in both of them, as a rule, is sciatic pain a prominent symptom. These are the relaxed sacro-iliac joint and the traumatism of the joint. Relaxation of this joint within certain limits is a normal accompaniment of pregnancy and possibly even of menstruation. Owing to circumstances either constitutional or local in their nature, this relaxation exceeds the normal limits or is not recovered from as it should be. It then becomes pathological and gives rise to subjective symptoms. The most prominent of these is backache. With this we are not at present concerned. Almost as often, however, sciatic pain is a marked complaint and one which is always dispelled once the abnormal movement of the sacrum is controlled by mechanical means. The following case is typical of this class: A woman, thirty years of age, previously healthy and not of nervous temperament, was delivered of her second child six months before I saw her. This second pregnancy had been notable in that backache and sciatic pain, with which she had been troubled in her first pregnancy, were this time very much more severe, so that walking and standing had become almost unbearable because of pain in the back of both thighs. She volunteered the statement that during the last weeks preceding labor she felt a "crunching" in the lower part of the back, "as if something were slipping." This sensation was still often present. The labor was perfectly normal, as was also the puerperium. In addition to this "crunching," which was most unpleasant, she suffered greatly from pain in the back of the right thigh and often in the left, though here to a lesser degree. She had backache very often. She was otherwise perfectly well. In making the examination, the patient standing before me, I placed the fingers of each hand upon the iliac crest of the corresponding side, my thumbs resting upon the sacro-iliac joints. The patient was now made to flex one hip, with the knee kept extended. I

was thus enabled to perceive distinct movement with the thumb. The procedure caused considerable pain. A very strong webbing belt, five inches wide, was attached to the patient's corset, with a felt pad pressing upon the sacrum. This has relieved her completely, and she is still wearing it.

More interesting to me than these cases of simply "relaxed" sacro-iliac joints are the cases of traumatic character. In the cases of this variety which I have seen sciatic pain was the most marked symptom. These traumata may be produced by severe or comparatively slight force, and, according to circumstances, they result either in acute sprain or actual subluxation of the joint. With the acute sprain this paper is not concerned, since its chief clinical manifestation is severe backache. The chronic relaxation of the joint resulting from such acute sprain, however, as well as the true subluxation, once this has occurred, are frequently provocative of sciatic pain, whose real nature is likely to be mistaken or totally overlooked if the sacro-iliac joint be not taken into account. This becomes of particular importance insofar as the prompt relief of the sciatica depends upon the proper support of the loose joint, preceded by the reposition of the subluxation, should this be present. I have been able to observe a number of such cases, only one of which is here narrated because of its interest and because it is fairly typical.

A gentleman of fifty years was referred to me from a neighboring city with the following history: While in New York several months before, he attempted to alight from a moving car. Being quite heavy, he made a misstep and, according to his statement, "twisted his hip." He immediately experienced intense pain in the lower part of the back and right hip, so that he fell to the ground.

Upon being taken to his room, he was carefully examined by a physician, who was surprised to find no evidence of fracture. He continued to suffer intensely for several days and was unable to leave his bed because of the severe backache. Finally he was able to get about with crutches, although very painfully. He was able to bear his weight upon the limb and even to take a step, but this caused intense pain in the back and down the back of the thigh. A resort to osteopathic treatment was followed by some improvement, but he did not become able to discard his cane, upon which he bore heavily. He was in this condition when I saw him, suffering intensely from sciatic pain upon standing and

walking. Radiograms of his hip and spine failed to show anything abnormal. There was decided tenderness upon firm pressure over the right sacro-iliac joint, and the test of hip flexion with extended knee was positive, and some definite motion at the sacro-iliac joint was made out. He was fitted with an appliance supporting the joint and steadying the sacrum and was soon able to resume his duties without further suffering. He finally discarded his appliance without further advice; but, having changed his residence to a more distant city, engaged in a new enterprise which required his being on his feet continuously for many days. He now informed me that his trouble had returned in severe form. A colleague, to whom I referred him, believed himself able to make out a subluxation, and I was informed that replacement had been accomplished. I have not since heard from him.

Although I might continue with reports of a number of interesting cases, I shall abstain from so doing, since it is my purpose simply to attract attention to these causes of sciatic pain whose true nature is too often permitted to go unrecognized. While I am by no means prepared to say that chronic sciatica may be no longer considered to exist as a clinical entity, I am certain that careful analysis will greatly reduce the number of cases in which we are compelled to be satisfied with such a diagnosis. But if it does this it will at the same time multiply the instances in which we may bring radical and prompt relief to many who must otherwise suffer most protractedly from these ailments, at once so harassing and disabling. It certainly seems now justifiable to say that no case should be considered simply as chronic sciatica unless the above mentioned lesions of the spine and sacro-iliac joints have been definitely excluded from the diagnosis. I have omitted from the above discussion mention of acute conditions in the hip joint which have often given rise to sciatic pain. These are either cases of hip tuberculosis of great acuteness or during an acute exacerbation, or else they are examples of infectious arthritis in this joint of gonorrheal or other origin. Although patients with these conditions frequently have severe pain along the back of the thigh, the involvement of the hip joint can scarcely escape detection if the examination be only fairly thorough. The interference with joint movement and its painfulness must at once attract attention to this articulation.

DISCUSSION.

DR. STERN, Cleveland: The medical and medico-legal value of this paper is great, if granted

that the hypertrophic spondylitis so ably described can also be caused by trauma. A large number of laborers and men with severe trauma of the back will in a short time complain not only of backache but of sciatica. We used to say to a man who had a wagon-load of brick fall on his spine and afterwards complained of this pain, "You have sciatic rheumatism." How much future pain and mental distress might be saved these unfortunates if we could have put our hand on this lesion and relieved their sufferings.

DR. FREIBERG: I am well aware that a certain proportion of these cases are of traumatic origin, but not all joint lesions are of traumatic origin by any means. However, I have considered it a duty to place this matter before the physicians of this state, because comparatively little attention has been paid to it. It is not a condition hopeless by any means, but can be most satisfactorily relieved, particularly if diagnosis be made early and the proper treatment then given.

MANAGEMENT OF THE THIRD STAGE OF LABOR.

E. W. DOHERTY, M. D.,
Toledo.

[Read before the Ohio State Medical Association.]

In discussing the "Third Stage of Labor," I am not unmindful of the fact that I am dealing with a subject that every practitioner has well-defined ideas regarding its management. Of the three stages of labor the third is by far the most important, so far as the future health of the mother is concerned. By its proper management we reduce to a minimum the causes of post-partum hemorrhage, avert the many unpleasant symptoms accompanying uterine displacements and place our patient in a position to make a rapid and speedy recovery from one of the most trying ordeals of her life.

The placental stage of labor properly extends from the expulsion of the child to the complete evacuation of the uterus of all placental membranes and coagula. Prior to 1861 various methods were in vogue for delivering the placenta—the most common of which were traction upon the cord or to pass the hand into the uterus and bring away the secundines. In 1767, John Harvie of the Dublin Hospital originated and practiced what is today termed Crede's method of delivering the placenta. This method was not used or brought to the attention of the medical profession until its resurrection by Crede in 1853. Since that time it has been used by the leading obstetricians and is today recognized as the ideal way of terminating the third stage of labor, when

the natural forces are insufficient to perform their task. To Harvie and Crede can be given credit for saving thousands of mothers' lives annually, where they formerly succumbed to septicemia, brought about largely by the introduction of septic material on the hands of the attendant.

As we practice obstetrics today it is very rarely necessary to introduce the hands into the uterine cavity to clean out its contents, providing this stage of labor be properly managed. I cannot conceive of any greater danger to the parturient than the introduction of the hand between the membranes and the uterine wall to detach a placenta. At this time the uterine sinuses are open, the uterus engorged, the lymphatics multiplied and everything favorable to the absorption of septic material. Manual detachment of a placenta is far more formidable than the various forceps' operations, for the reason that when we apply forceps we are working in a closed sack and if we are so unfortunate as to carry an infection into the cavity it will in all probability be expelled with the membranes.

Immediately following the birth of the child the uterus will be found lying dormant in the abdominal cavity, barely reaching to the umbilicus. This condition usually obtains from five to thirty minutes, depending upon the duration of the labor. During this time the attendant should frequently palpate the uterus to see that there is no relaxation and consequent filling up with coagula. Should there be a tendency to relaxation, a gentle kneading should be kept up until firm contraction is established and the uterus felt to rise from three to five centimeters above its original position. This rising up indicates that the placenta has separated from the uterine wall and lies either in the lower uterine segment or in the vagina. If in the lower segment a slight boggy-ness will be observed immediately above the symphysis. When this condition prevails it is my custom to follow the teachings of Williams. The uterus should be grasped with the fingers of the left hand posterior and the thumb anterior, and use the uterine body as a piston to force the placenta out of the vagina. The pressure should be made in the direction corresponding to the axis of the pelvic inlet—downward and backward. This maneuver should not be confounded with the typical Crede method, as it is used merely to dislodge the placenta from either the lower uterine segment or vagina and not to force a separation from the uterine wall.

Crede's method should not be instituted to deliver any placenta until a lapse of twenty or

thirty minutes following the birth of the child, hemorrhage being the only exception to this rule. The length of time, however, between the birth of the child and the manual removal of the placenta must be determined largely by the length and character of the labor. In a short labor, followed by firm uterine contraction, the termination of the third stage may be safely accomplished in the average case inside of twenty minutes, while following a prolonged labor without any tendency to hemorrhage, it may be advisable in many cases to wait longer than thirty minutes and give the uterine muscle an opportunity to regain its tonicity and allow the coagula in the sinuses to become more firmly established. If too hasty an attempt be made to terminate this stage of labor we get as a result a subsequent relaxation and filling up with coagula due to an imperfect closure of the sinuses at the placenta site. This is one of the fertile sources of endometritis, sub-involution and pelvic pain so often seen following confinement. If there should be a tendency to excessive hemorrhage, which is to be determined by the pulse, the uterine cavity should be emptied at once and a kneading process kept up until the hemorrhage is checked and the uterus remains in a state of tonic contraction.

If it becomes necessary to employ Crede's method, the hand should grasp the uterus with the fingers posterior and the thumb anterior, making pressure on the antero-posterior diameter, and also in the direction of the pelvic inlet. The average placenta will be expressed with the first maneuver, providing it be properly applied. Should it not be accomplished, there can be no harm in its repetition, as it is only a supplement to nature, its object being to bring about what the natural forces are unable to accomplish.

If nature separates the placenta and it lies loose in the lower segment or vagina, there can be no harm in employing traction on the cord to deliver it. This, however, should never be resorted to unless we are absolutely certain of our diagnosis. With obese patients, I sometimes employ a test to determine the separation, where the abdominal wall is too thick to outline the boggy-ness above the symphysis. By grasping the uterus with one hand and taking hold of the cord with the other, a distinct wave or impulse can be felt whenever pressure is made on the uterus, providing the placenta is still adherent. If there is no impulse traction on the cord is perfectly safe and justifiable.

Whether it is best to roll the membranes into a rope as they are extruded from the uterus or deliver slowly and carefully without, is a question I

shall not attempt to answer. I have tried both plans and confess my ignorance probably, when I say that one procedure is as good as the other, with no preference for either and plenty authority for both. Take your choice.

Every placenta should be carefully examined as to its integrity, bearing in mind always the deformities that sometimes enter into the formation of this complex structure. The maternal surface should be examined carefully to see that the cotyledons are all present, then evert the placenta and note if the amnion and chorion are intact. Should any part be found missing, especially a part of the maternal surface, it is imperative to insert a sterile gloved hand and remove the remnant. After a procedure of this sort, it is my custom to use an intra-uterine douche, preferably creolin 2%. Under no other circumstance would I use a post-partum douche, Edgar to the contrary.

Usually while waiting to ligate the cord, I investigate the perineum. This examination should consist not only of an ocular inspection but a thorough digital examination. Not infrequently the external genitals will show no evidence of a laceration, while there may exist a deep tear of the median or lateral type. *Every laceration, regardless of its extent should be repaired.* We have no means of knowing how much inconvenience, if not actual pain, a small laceration may produce, therefore be on the safe side and repair. At the risk of infringing somewhat upon your patience, I shall go somewhat into the details of repairing a perineum. We all know how to do this, but judging from the number of perineorrhaphys that are done daily in our various hospitals, there must be something wrong somewhere, either in technique, or a possible carelessness on the part of the obstetrician. No one, except the unfortunate victim, can appreciate the many unpleasant features connected with a chronic leucorrhoeal discharge, a result perhaps of an endometritis, produced by a flexion or version of the uterus, all in consequence of a failure to repair a perineum, thereby producing a weakened pelvic floor. You doubtless have heard this expression: "I never tear my patients. Literally that may be true. But the sense meant to be conveyed is that this particular individual has some peculiar tact, some particular way in which he can prevent this awful calamity. Such a man ought today to be considered a medical curiosity, fit only to be viewed in some private museum as the most wonderful accidental phenomenon of the age. We all see these tears. We do not make them. Whenever the object which is to pass

through a certain canal is larger than the elasticity of the muscular tissue that surrounds this passage, we are bound to get a rupture of the perineum, and I say that credit is due the man who will not try to dodge the issue, but proceed to restore the parts to as near the normal as is within his power. For convenience, ruptures of the perineum may be divided into two general classes, complete and incomplete.

After ligation of the cord, I usually proceed to repair the perineum, providing the uterus is well contracted. The field of operation is thoroughly cleansed with sterile water and a temporary gauze packing placed well against the cervix in order to keep the field of operation clear. The first sutures are placed in the upper angles of the tear and well back from the margin of the wound. All the sutures are placed and left untied until the delivery of the placenta after which the gauze packing is again inserted, the parts cleansed, and the sutures tied. Care should be exercised not to draw the sutures too tight, but just sufficiently so to coapt the parts, lest the edema that usually follows may cause the stitches to cut through and thus thwart your purpose. This applies particularly to incomplete tears. In lacerations where we have a complete separation of the muscular fibres, the rent possibly extending through the wall of the rectum, it is best to evacuate the uterus and see that it is firmly contracted before making any attempt at repair. Then place the patient under an anesthetic, cleanse the field of operation, pack off with sterile gauze and proceed to the repair of the rectum. The suture material for this part of the operation should be of fine silk, the sutures placed about one-eighth of an inch apart. After suturing the rectum the severed ends of the muscles should be coapted with ten-day chromicized catgut. After completing the repair of the deeper structures forming the perineal body, the edges of the wound should be brought together as in a repair of the first degree. I prefer for suture material the silk-worm gut for all sutures that are superficial and have to be removed. It has the necessary lasting qualities and is less liable to infection. The ends of the sutures should not be cut short, as Williams advises, but left long enough to protrude from the vulva. By leaving the ends long, we obviate the constant pricking that the short ends will produce. The stitches are easier to remove and a great deal easier to keep clean.

Various are the opinions with reference to the utility of the abdominal binder. Hirst will tell you in the last edition of his obstetrics that it is an absolute necessity for the comfort and well

being of the patient. His chief argument in favor of its employment being the prophylaxis of relaxation of the uterus and subsequent post-partum hemorrhage, it aids the abdominal muscles to retract, and prevents diastasis, keeps the abdominal vessels from engorgement, prevents uterine displacement and adds greatly to the comfort of the patient. Williams, on the contrary, will advise you diametrically opposite.

It is indeed fortunate for the beginner in medicine that he is rarely able to purchase but one text-book on obstetrics. By following the teachings of one author, he may have a reasonably clear conception of what may seem to be right, until experience will permit the exercises of his own judgment. All old women have long since learned the immeasurable advantages of the abdominal binder, and I counsel the young man to use discretion in abolishing its use, lest he call down the wrath of some worthy patient for being so careless regarding the preservation of her form. There may be men attending this meeting who employ the binder. I want you to tell me why you do it. Is it to please the whim of some officious old lady, who boasts that she "fetched babies" before you were born, or is it because you conscientiously believe what you practice? The normal position of the non-pregnant uterus is one of antelexion, and I cannot conceive of any device you could employ or any mistake you could make in the management of this stage of labor that would be more prolific of a retroflexion or retroversion than the application of a pad composed of two or three towels held above a fundus by a snug abdominal binder. But nature cares well for the race, and if you do not get your displacement from such treatment, it will be because Providence was kind to you and considerate of the patient. After the uterus has contracted well below the symphysis at the tenth or twelfth day when the patient assumes the erect posture, there can be no harm in applying an elastic abdominal support, and I can readily see where it might do some good.

In conclusion, I will add but a few words regarding the use of ergot. If a labor has been perfectly normal, the placenta expelled by the natural forces, there is no reason why this drug should be given. But if the labor has been protracted, bringing on a functional disability of the uterine muscle, there is no medicament that will cause a more prompt response than ergot or some of its preparations. Where there is tendency to a relaxation and a subsequent filling up of the uterus after it has been completely evacuated I make it a rule to give from forty to sixty minims

of ergotol hypodermically. This injection should be made deep into the muscles of the thigh, at a right angle to the surface of the body. By making the injection into the muscles instead of subcutaneously, we avoid the abscess formation that sometimes follows the use of this drug. The injection may be repeated, in two or three hours, but I rarely find it necessary. I think it a good plan to avoid its use altogether unless there is a positive indication for its use.

THE RELATION OF DISEASES OF ACCESSORY SINUSES OF THE NOSE TO EYE SYMPTOMS.

J. W. MURPHY, A. M., M. D.,
Cincinnati.

[Read before Ohio State Medical Association.]

In my investigations concerning the connection between disease of the accessory sinuses of the nose and some of the obscure eye symptoms which so frequently accompany them, I was led to make a number of specimens, both coronal and sagittal, demonstrating the close connection between these cavities, and showing how a disease of the one can easily manifest itself by a disturbance of the function of the other.

That quite a serious affection of one or more of the accessory sinuses of the nose may exist without causing serious inconvenience or pronounced symptoms upon the part of the patient is the experience of all. Those who do or see much post-mortem work on the accessory sinuses are often surprised to find a serious lesion of one or more of the sinuses when there were few or no symptoms complained of by the patient.

In 1904, Prof. Onodi Budapesth presented a paper on this subject before the section on Laryngology and Otology at the meeting of the British Medical Association held at Oxford, in which he gave the views of some of the leading ophthalmologists of Europe as to the frequency with which they had encountered eye symptoms which they thought could be referred to a disease of one or more of the accessory cavities of the nose.

He submitted the following questions to them:

(1) Have you observed loss of sight or optic neuritis due to canalicular disease of the optic nerve produced by diseases of the sphenoid and ethmoid cavities? Was the causal connection traceable and nasal treatment effective?

(2) Have you noticed loss of sight or optic neuritis caused by disease of the above-mentioned cavities and in causal connections, confirmed by necropsy?

(3) In one-sided neuritis is optic atrophy characteristic of a causal connection with diseases of these cavities? Have you observations of this?

(4) Can blindness of both eyes coexist with long-standing empyema of the sphenoid without causal connection? Have you observed this?

The answers received to these questions from men of wide experience and careful observation is rather surprising, in view of the number of such cases appearing in our journals today.

Prof. Leber says: Although I have turned my attention for many years to the question of the connection between the diseases of the posterior sinuses of the nose and those of the organs of sight, I have been able to note very little worthy of record with regard to the sphenoidal sinuses and the posterior ethmoid cells.

Schmidt-Rimpler says: I have never seen a disease of the optic nerve in sphenoidal or ethmoidal bone affections, in which there was not penetrating disease of the orbital wall and of the adipose tissue of the orbit, displacement of the eye and exophthalmus; disease of the optic nerve is, then, the result of affection of the adipose tissue.

My experience affords me no proof that empyema of the sphenoid cavities can of itself cause an affection of the optic nerves.

Prof. H. Sattler says: Unilateral optic neuritis and optic atrophy are in no way characteristic of disease of the sphenoid and ethmoid cavities.

Prof. Axenfeld says: It is my opinion that diseases of the optic nerves (neuritis and pressure atrophy) are if we except actual tumors and perforating cases, much rarer than we might expect in diseases of the sphenoid. As to empyema I can only remember one double-sided case in which the connection of retro-bulbar neuritis with sphenoid empyema was possible.

Sarger and Wilbrand say: Unfortunately we have made no observations which would show causal connection between optic neuritis and disease of the sphenoid and ethmoid cavities.

From these reports you can see that up to four years ago retro-bulbar neuritis and pressure atrophy of the optic nerve, where a causal connection was clearly established between the eye symptoms and an empyema of the accessory nasal cavities during the life of the patient, and later confirmed by necropsy, was rather rare.

Possibly the most striking paper to appear in relation to this subject during the past year was that by Dr. Henry Manning Fish, of Chicago, who reports the study of thirty-six successive cases of optic neuritis, in which nasal accessory

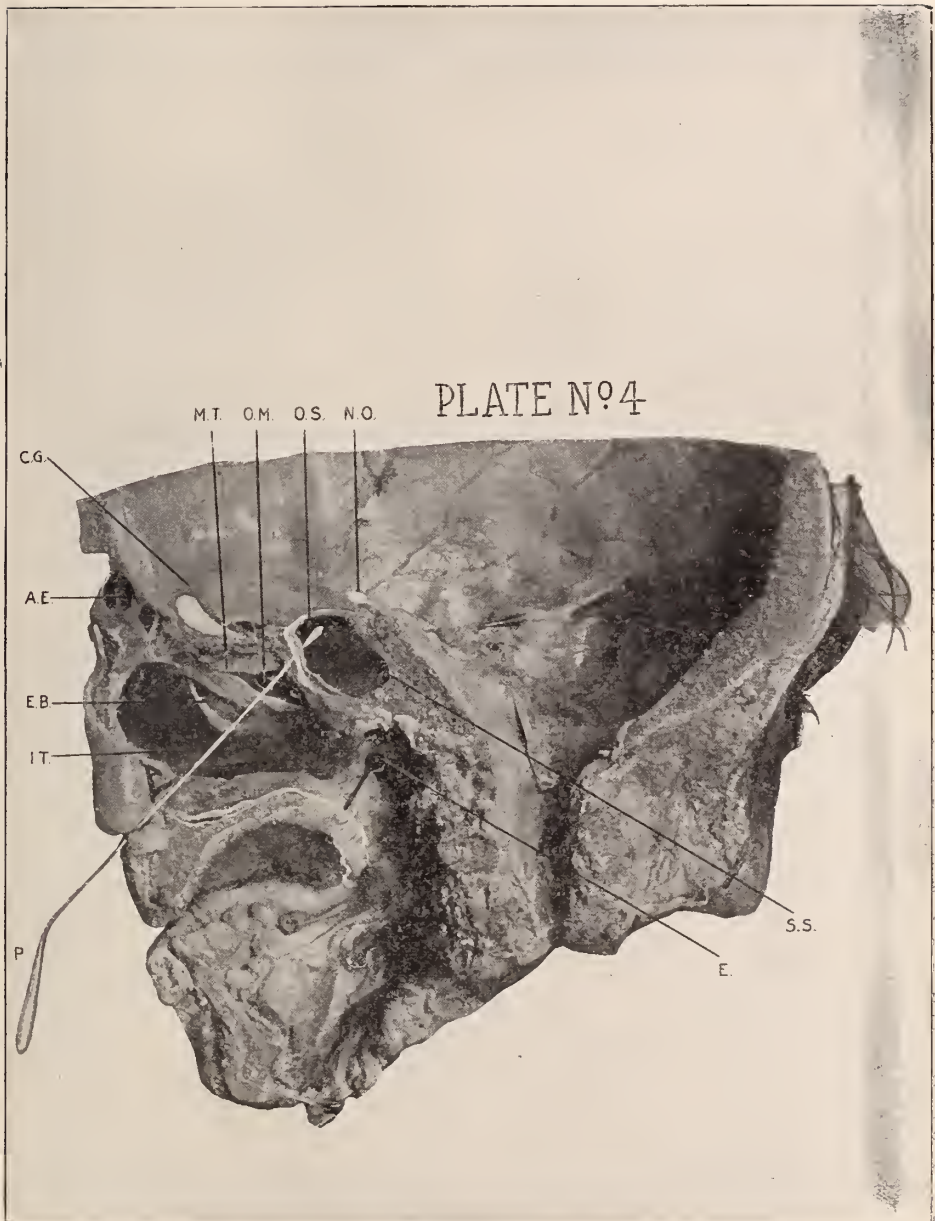


PLATE No. 4.

Sagittal Section, showing the relation of the sphenoid with the optic nerve. Turbinate bodies atrophied. S. S. Sinus Sphenoidalis 30 m.m. long; 25 m.m. broad; 20 m.m. deep. E. Bougie in Eustachian Tube. N. O. Nervus Opticus. O. S. Ostium Sphenoidalis. O. M. Ostium Maxillaris. M. T. Middle Turbinate atrophied. A. E. Anterior Ethmoid Cell. E. B. Ethmoid Bulla. I. T. Atrophied Inferior Turbinate. P. Probe passing through Ostium Sphenoidalis.

sinus disease was present twenty-six times. Several of these cases showed that an abundant nasal secretion is not necessarily present in every case of sinusitis, and all of his cases of optic neuritis and amaurosis showed improvement in the eye symptoms as soon as the diseased sinus was drained.

An analysis of these twenty-six cases proves the correctness of Prof. Mendel's theory that most cases of unilateral optic inflammation are traceable to a nasal source.

Mendel says he regards unilateral choked disc as mostly due to an inflammation of the orbit, but when it is bilateral we must seek for the cause in some intra-cranial affection.

Lapersonne also insists upon the characteristic of unilateral disease when he says, "Optic neuritis is rarely seen in inflammation of the frontal sinus, more often in inflammation of the maxillary or ethmoid, but it is produced, if at all, by inflammation of the sphenoidal sinus. A chief characteristic of neuritis, due solely to sinus inflammation, is, that it is unilateral. Although, strictly speaking, both nerves may be affected in the optic canal by inflammation of both sphenoidal sinuses, a double œdematous neuritis ought rather to make one think of an intra-cranial process."

I wish to report several cases in which the eye symptoms seemed to show a causal connection to a diseased accessory sinus.

(1) Mr. S., aged 28, was referred by his family physician, E. W. Mitchell, for a pain over the left frontal sinus, and some obscure eye symptoms following an attack of influenza. The ophthalmoscope examination showed the media clear; disc hazy and œdematous, vision slightly reduced and eye pained considerably upon attempting to use it, right eye normal. Examination of the nose showed the left middle meatus full of thick greenish pus. The left frontal bone was swollen and very tender to pressure. The middle turbinate was boggy and completely occluding that side of the nostril. The anterior end of the middle was removed and the ethmoids found full of granulations and polypi which were curetted. The eye symptoms quickly cleared up, and all pain over the frontal disappeared and the patient has had no return of the symptoms now over two years.

(2) Mrs. S., aged 25, was referred by her family physician, Walter Musekamp. She was suffering from great pain in the left eye with diminution of vision in that eye. Vision R. eye 20/20, L. eye 20/40. Ophthalmoscopic examination showed much inflammation of the disc in left eye. R. normal. The left nasal passage was com-

pletely occluded by inspissated pus, much resembling brain tissue. No inspection of the cavity was possible. A curette was necessary to remove mass. Two days later the middle turbinate was removed and the frontal sinus on left side drained, and ethmoids found to be diseased, and curetted. The reaction was quite severe, but in one week's time all eye symptoms had disappeared and the pain over frontal was gone. She still has some discharge from the left frontal, but so long as it is kept draining, no eye symptoms or headaches are present.

(4) Mr. W., aged 45, complains of great pain on the left side of the head, and almost total loss of vision in the left eye. Had had syphilis twelve years ago. A most offensive ozena was present. The entire septum and most of the turbinates were gone. The openings of both sphenoids could be seen to be occluded by dry crusts. There was bilateral optic neuritis, but much more marked in the left. Both sphenoidal walls were removed and pus was present in both. Under K. I. his condition gradually improved and his eye symptoms were much better, but a persistent neuralgia still remains.

(4) Mr. H., aged 32, was referred by W. F. Moss for empyema of the right accessory sinuses of the nose, followed by great mental deterioration, with sudden paralysis of the right external rectus, and blindness of the right eye. The patient was well up to three months ago. Patient walks with a staggering gait. His mental condition is such that he cannot give a history of his case. There is some exophthalmos of the right eye, which turns in, from paralysis of the external rectus. Vision of left eye normal. Ophthalmoscopic examination showed almost complete atrophy of the optic disc, more marked on the temporal side. The blood vessels were nearly normal in number and size. This is the last expression of a unilateral retro-bulbar neuritis, doubtless secondary to an empyema of the right posterior ethmoid and sphenoid cells.

Dr. D. T. Vail saw the case in consultation and verified the eye findings and considered the condition due to suppuration in the sphenoidal sinus. Transillumination and the X-ray both showed pus in the antrum and ethmoids on right side. Under chloroform anesthesia the antrum was opened and found full of foul greenish pus. The right half of the sphenoid was necrosed and movable. Much dead bone was removed, but not all, lest the cavernous sinus might be opened. The cavity was packed with iodoform gauze. For five weeks following the operation the patient's condition improved, all pain was gone and he wanted to re-

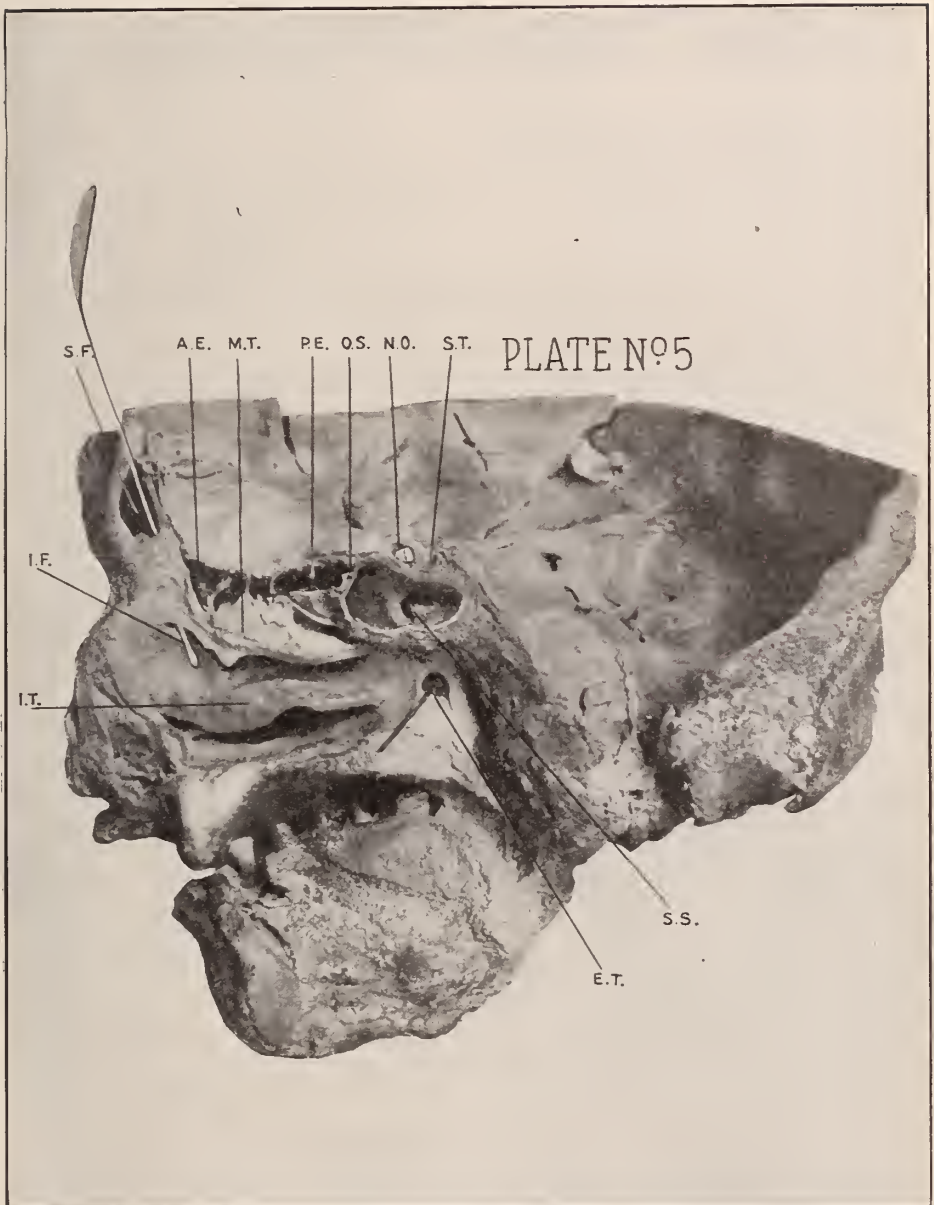


PLATE No. 5.

Sagittal Section, showing the relation of the sphenoid with the optic nerve and the ethmoids with the frontal sinus. S. S. Sinus Sphenoidalis. E. T. Bougie in Eustachian Canal. S. T. Sella Turcica. N. O. Nervus Opticus. O. S. Ostium Sphenoidalis. P. E. Posterior Ethmoid Cells. M. T. Middle Turbinate. A. E. Anterior Ethmoid Cell. S. F. Sinus Frontalis. I. F. Infundibulum with probe passing from the Frontal Sinus. I. T. Inferior Turbinate.



PLATE No. 6.

Sagittal Section of the left half of the head, showing sphenoid and ethmoid cells. E. T. Eustachian Tube. H. P. Hard Palate. I. T. Inferior Turbinate. M. T. Middle Turbinate. E. C. Ethmoid Cell in Middle Turbinate, with probe passing back into sphenoidal opening. S. Superior Turbinate. O. S. Ostium Sphenoidalis. N. O. Nervus Opticus. S. T. Sella Turcica. S. S. Sphenoidal Sinus.

turn to work. The patient died six weeks after the operation following a persistent diarrhea.

The post-mortem showed complete destruction of the entire right sphenoidal cavity, nothing remaining of the cavity excepting debris. Communication between the right middle cerebral fossa and the pharynx was direct.

Discussion—D. T. Vail, Cincinnati: This is a very interesting paper indeed and a very valuable one. It is only within recent years that the relation between the eye and the nose began to be appreciated. As I remarked in a paper five or six years ago, published in the *Lancet Clinic*, bearing on this subject, there was not at that time, and I believe there is not today a single work on "The Eye and the Nose."

The connection is partly on account of contiguity, but partly also on account of the fact that the lymph and venous drainage from both these structures find an outlet in and around the cavernous sinus, and the veins of the orbit and back of the nose; and there are also interesting nerve connections between these structures, the ciliary and nasal nerves being branches of the fifth, and so on. It is not unusual to have retro-bulbar neuritis in diseases of the accessory sinuses. An optic neuritis affecting but one eye is very often due to nasal disease, but choked disk is rarely a one-sided affection. The reason it is not more common is that the choking of the nerve is not close to the eyeball where the retinal vessels perforate, but nearly an inch further back where the optic foramen exists and where the sphenoid sinus lies in close contiguity. The nerve is nourished from the pial vessels located entirely within the dural sheath of the nerve, so that a periostitis affecting the optic foramen would bind like a collar and set up an interstitial inflammation of the optic nerve and cause a strangulation of the nerve at that point. The commonest finding in retro-bulbar neuritis is a scotoma and loss of the field of vision. The scotoma is first probably in the majority of cases, a central one, owing to the fact that the papillo-macular bundle of nerve fibers is the most sensitive and most easily compressed, although at this location it occupies the exact center of the optic nerve. A great deal is yet to be learned of the real relation that exists between the eye and the nose. Those who have been the pioneers in this line of work are to be given great credit for what they have done.

THE POTENTIALITY OF HABIT.

C. D. MILLS, M. D.,
Marysville.

[Read before the Ohio State Medical Association.]

My object in writing this paper is to elaborate and emphasize what I presented to this Association at its 1904 meeting under the title "Habit." The high estimate I then placed upon the subject has progressively increased with added thought and inquiry. Now my interest has become so intense that I am unable to appreciate how any one can be indifferent to its theoretical and practical importance. For our purpose the subject may be treated under two heads—"Habit in its comprehensive sense; then, as applied to the various addictions, closing with practical applications based upon the ideas suggested by our subject."

Habit is from *habitus*, and it from *habeo*, meaning to have or to possess; hence, the definition dress; but psychologically habit is not a chattel that can be bartered for or exchanged or put on like an ordinary possession, but it is an incorporate part of ourselves, an innate or acquired characteristic not only of our bodies as a whole, as summated in the cerebral cortex, but also of each integral part of which our bodies are composed.

As the nervous system as an entirety is the relating and unifying agent of our body politic, and the cerebrum its chief executive, any discussion of habit necessarily implies a consideration of the nervous system. The law of habit is based upon the plasticity of the nervous system, whereby it is readily adapted to new conditions, and another closely allied vital principle that an organism tends to repeat what it has already done. Baldwin says that habit expresses the tendency of an organism to secure and to retain its vital stimulations. As a natural inference he continues: Habit begins before the movement which illustrates it actually takes place. According to James, the laws of nature are nothing but the immutable habits which the different elementary sorts of matter follow in their action and reaction upon each other.

The fixed law which combines H and O in such proportions as to form water is a habit of these elements before the union of these elements takes place. The habits of the simpler material forms are definite and unchangeable. The chemist predicts with unerring exactness the results of his combinations. Moving a step upward in

the vegetable kingdom, we have much less definite habit phenomena. While we can foretell with accuracy the kind of rose and lily, we cannot approximately predetermine the multitudinous varieties in form. Then, when we advance to the dignity of the animal kingdom, the possibilities of habit phenomena are infinite. The complexity multiplies when we arrive at the human organism where habits are innumerable in possibilities. Then, when we consider the self and not-self relationships, our minds become dizzy, even with consideration.

We are born with many ready made nervous mechanisms that provide invariable motor phenomena; for example, those that have to do with our somatic lives. Under normal stimulations the gastric mucous membrane always furnishes its peculiar juice, the liver always secretes bile, the kidneys invariably excrete urine. as a further illustration, the babe is born with a ready-made adapted movement necessary in taking its food. This is probably one of the recapitulations of our phylogeny that has no exception in our ontogeny and is in harmony with the idea that habit expresses the tendency of the organism to exercise and retain its vital stimulations. These activities, being presided over by the cord and lower brain levels, is in perfect accord with the statement that the child's brain is a blank page, upon which are to be inscribed the impressions and transactions of a life. Every sense impression is received and recorded without discriminating judgment.

That an idea tends at once to realize itself in action has beautiful exemplification in the child. The middle factor in the sense, thought, will, art, is not well developed or is not developed at all. The afferent impulse is followed directly by a corresponding motor response. The child accepts unreservedly suggestions from those near it. Every ingoing sense impression is accepted as a reality and results in a corresponding motor activity. It has a suggestible consciousness, not because the ordinary criteria of belief are in abeyance, but because it has no criteria of belief that enables it to compare present sense impressions with those previously received and fixed in the nervous system in the form of memory. "Consciousness at this period finds all presentations of equal value in the terms of uncritical reality." (Baldwin.)

As we have already intimated, a child's endowments are largely possibilities. It has many tendencies for which its nervous system possesses no ready-made arrangements. Heredity determines these tendencies, and environment what

these new tendencies shall be. Some of these tendencies are ready-made mechanisms in our remote progenitors; for example, the ability to walk which characterizes many of the lower animals at birth. While the human infant cannot walk at birth, there is an inborn potentiality that manifests itself at periods varying from the eighth to the fifteenth month. Baldwin, in observation upon his own children, found that by suspending them by supporting them under the arms, so their feet would just touch the floor, that they would move their legs rhythmically before they began to walk.

The child must learn everything in the school of experience. The mother's face and lullaby, the nurse and nursery, are first recorded on the page of memory. It soon acquires the simpler facts of experience. Attracted by the light and color of the candle flame, it reaches out its hand and grasps it and suffers through the want of knowledge. At the second sight of the candle flame, the same impression is conveyed to the brain, but its previous experience causes it to withdraw its hand. Thus, on and on through life, the mental processes become more and more complex, until are made possible the most profound judgments and highest capabilities for good and evil.

Except hypnotism, no state demonstrates the motor force of an idea as does childhood. During this period it is eminently true that the nervous system forms itself in accordance with the mode in which it is habitually exercised; hence, now is the period for habit formation. Now it is of vital importance that the child's training should be most thoughtfully and conscientiously directed. Home laws should be as habitual and unchangeable as the laws of nature. It is not so important that the child be taught the *laws* of habit as that home and school government should be faithfully executed in harmony with those of laws. Maturity should not be burdened with the simpler ethical problems that childhood should already have made habitual. What a calamity to themselves and society that children are sent out into the world with no definite habits but those of indecision, like a rudderless craft on a wild sea, unstable, unresisting, helpless, all because their early training has not built their nervous systems into bulwarks of defense. (James.) At this point I want to emphasize what I said to you before concerning one of my observations in habit cases. In securing their histories, we not only inquire into the family history with special reference to the question of nervous stability, degree of education, religion, duration of habit and complicat-

ing diseases, but also this: "What was your early home life in regard to discipline?" And I have not been surprised to learn that a large number of these unfortunates have never known the practical meaning of the word "law." Either there had been no discipline at all or infractions of law were met with no condemnation today and with unreasonable and unjust arraignment tomorrow. It is unfortunate that the home that furnishes such a conflicting, unstable and vacillating authority should transmit nervous systems peculiarly susceptible to the acquirement of just such habits. Viewed superficially, we naturally conclude that the rigid enforcement of law interferes with the development of a strong individuality, for each act of obedience is in all probability in violation of the desires of the habitual self, but it is to be remembered that growth comes by resisting. We must learn to do the things we do not want to do. Strong, vigorous manhood does not come by the way of least resistance. Further, we are assuming a home and school where the administrations are in strict conformity with the parental and pedagogic exemplifications. The child soon learns by observation and imitation that the greatest pleasure comes from following the line of action that has daily idealization in its presence, and, again, the enforced acquirement of today is the habitual self of tomorrow.

So it is not as paradoxical as it seems that genuine growth and a healthy morality depends upon the "habit of violating habits." "We must acquire the habit of acting, not the habit of action." (Baldwin.) That is, new conditions must be met with volitional acts and not with habitual or passive action. "An organism accommodates itself or learns new adjustments simply by exercising the movements it already has—that is, its habits in a heightened or excessive way." (Baldwin.) The freshet not only enlarges the original channel, but it also establishes new channels, which are branches of the original stream. These new water courses are then original channels, in which other new streams have their head. With an unusual rainfall a new water course may even supplant the old channel. So in the nervous system, by reason of heightened or excessive stimulation, a new thought stream is established by an overflow of the old channel that may closely resemble the original thought stream. Sudden emotion or unexpected excessive afferent impulses of any kind may start entirely new currents of molecular activities, leaving the old channels as lines of least resistance, that may be readily reoccupied when conditions

are re-established that stood in casual relation to their original formation.

We must admit that habit implies a fixedness of ideas that under certain conditions does interfere with progress. The narrowness of view and fixedness of ideas which a circumscribed environment and a corresponding limitation of opportunities induces is a fact familiar to all. The positive convictions of the familiar country store loafer who stands in the attitude of would-be oracle to all his neighborhood, the habitual liar who tells the same story so often he believes it himself, the tenacity with which those who assume a broader knowledge, cling to their own church and their own political party are examples of the limitations with which habit surrounds us.

The miser deserves our sympathy rather than our censure who has amassed a fortune by dint of industry and rigid economy. Holding on to his money has become habitual. The insistent cry of wretchedness and poverty and well presented idealistic sentiments may stir within him a considerable amount of feeling, but never so intense as to lead him to surrender the dollar upon which his undivided, uninterrupted attention has been centered for years and years. One continual round of pleasure is not in fact pleasurable. The daily observation of a delightful landscape is not a continuous thing of beauty, simply because the psychic centers are not so intensely stimulated after repeated sensory impulses. The housewife, hidden away in a secluded country district, whose work is confined to a line of activities that by monotonous repetition have become habitual and that are not necessarily associated with thought, feeling or consciousness, furnishes an excellent prospect as a recruit for a state hospital for the insane.

Our modern industrial system, with its division of labor, is a guarantee of wealth to the capitalists, but is ruinous to the happiness and mental growth of the laborer. Idea motor reflexes cannot be safely confined to one line of activity. Not only should all the sensory avenues of approach to the great central ganglia be in the best possible condition, but sight and hearing and smell and taste and touch should bring us in association with the very best of life. "Intelligence is the associative valuation of disparate memory pictures," says Kraft Ebing. Therefore, the degree of intelligence depends upon the character, number and association of memory pictures. These memory pictures stand for our habitual selves. We do many things simply because we have done that same thing before. We walk and talk and eat and drink and think in a

certain way today simply because we have been doing these same things in the same way in the days of the past. We unconsciously do many of the simpler acts of life each succeeding day in the same way, even to the matter of drawing on our coat and putting on our shoes; in fact, every act of dressing is practically an exact reproduction of the days of the past. A pain that is experienced once on account of some exciting cause has a tendency to continue after the cause of excitation has been removed. That an organism has a tendency to repeat what it has already done has illustration in habit epilepsy, of which Spratting says: "It is a type of the disease due at first to a focal irritation, central or peripheral, which, being removed, creates a distinct pathologic basis for existence, simply through the effects of the convulsions often repeated. So it is that simple convulsions may in time pass into genuine epilepsy."

Educationally, habit is advantageous because it removes from the field of conscious attention the acquirements of the past. Things we know best place no burden upon consciousness. Our alphabet and multiplication table form no part of the mental effort necessary in the solution of a problem in language or science. The musician cannot rightfully assume the name "artist" nor exhibit that feeling of repose that affords the listener such exquisite pleasure who has not made technique a habitual part of himself. "Our environment is an unappropriated part of ourselves." A knowledge of our self and not-self relationships gives not only an intelligent basis for unselfishness, but also intensifies the importance of proper environment.

I can only interpret myself in terms of yourself, and I can only interpret yourself in terms of myself. Therefore, all of myself and yourself is not incorporate within our own selves. We are both consciously and unconsciously taking on the characteristics of what surrounds us. Our social, political and religious atmosphere is ready made for us and is absolutely destined to become parts of ourself. Environment is a necessity, not a matter of choice. We are insufficient within ourselves. The unappropriated parts of ourselves must be appropriated or our existence would very soon terminate. The perpetuation of our lives depends upon regular systematic cycles of waste and supply. Whenever we violate these laws of our being, death results. As long as we continue to grow, act, think, speak, work or play or perform any bodily function requiring expenditure of energy, there is a constant simul-

taneous and proportional drain upon our surroundings.

When that Utopian day arrives when all parents and teachers know the fundamental principals of life in such a way as to give them practical application, the doctor's business will be greatly curtailed and the world's sum total of happiness greatly augmented. We owe it to our children to surround them as far as it is within our power with the conditions that will furnish them with the best chance possible. The child's susceptibility to its environment is manifested very early. The babe must be rocked or patted or be held in a certain position or hear the mother's voice or lullaby before it will go to sleep, simply because these various methods have been previously employed. The child acts, walks and takes on the various mannerisms of its parents, not through the influence of heredity alone, but through the power of imitation.

College and university training will not pass at par value in the social and business marts of the world on account of bad grammar and careless and incorrect pronunciations that are the unfortunate heritage of early childhood environment. It is almost impossible for anyone to rise above the social conditions of which they are a part. Even if a rare genius does attain to greater heights; notwithstanding, he will take on the coloring of the community in which he lives. It has been well said that no impression, whether good or bad, is in the strictest literalness ever wiped out. Today is unseparably and vitally connected with every other day of our lives. Not what is to be will be, but what is is the result of what has been. This adds importance and dignity to each day. No one can be completely divorced from the past. Every violation of a physical or moral law brings with it a *locus minoris resistentia* that will be the source of our undoing when a too great element of stress overtakes us.

The wild oats idea is fallacious and unscientific, and any physician who gives it credence is guilty of ignorance or viciousness. My thought is the furthest removed from that of a boy growing up a goody-goody nonentity; in fact, I believe every reasonable form of athletics or legitimate industry should be encouraged. Muscle development means mind development, and I know of no better drill in honesty, self control, alertness, meeting emergencies, in cultivating the value of the individual, than arrives from contests on the athletic field. A boy will be busy in some way, and if his time is occupied by work or healthful sport and nagging at him with don't-

don't to the point of being driven to desperation is refrained from, his prospects for usefulness will be greatly increased. Stanley Hall says that character is a complex of motor habits; hence, to have a stable and a dependable character, adapted to a courageous and successful meeting of all conditions, the centers for these afferent impulses must be widely distributed.

The limits of this paper restricts us to only a cursory review of the various addictions, and it is rather from a psychological point of view that we are now to study them. Primarily, then, I am in perfect accord with Paton when he says, "The addiction to alcohol is a symptom of a functionally unstable nervous system." The typical dipsomaniac is to all intents and purposes a maniac before he takes a drink. It is a very common thing for such persons to tell you that their first drink brought to them a feeling of sedation that they never realized before. What the relation of the internal secretions or the great problem of auto-intoxication has to do with the bringing about of subsequent impulses to indulgence it is not now our province to discuss, but from our point of view it is the memory of the transient period of quiescence that leads them to take chances on the subsequent mental and physical anguish for the sake of a temporary period of psychic anesthesia.

The courts are coming to appreciate more and more that these individuals are insane and not legally or morally responsible. This is a question that must be handled with extreme caution, as the designing criminal might become intoxicated for the purpose of protecting himself from the penalty of the law. There is all the difference in the world between the class of drinkers to which we now refer, who drink because they are abnormal, and are more abnormal because they drink, and those who are abnormal because they drink. The latter class begins drinking in a social and very moderate way, until they pass from the period in which they are making a habit to the place where the habit makes them. No one who takes his first drink thinks he is to be a drunkard. What percentage of persons have the power to keep the habit in perfect subjection I cannot answer. To all intents and purposes it is dangerous for anyone to take the chances.

Apart from the personal hazard in view of what we have learned of the self and not-self relationships and their practical unity, the personal liberty idea is a delusion and a snare. I think it requires no argument, further than the import of what we are now presenting, to enforce the opinion that no physician, and par-

ticularly the medical press, has a right to stand for measures that are in open violation of their scientific knowledge. My experience with physicians who are either alcoholics or morphine users, or both, is that they prescribe both with reckless indiscrimination. One only needs to have a professional relationship with the alcohol and drug habitues to know that these habits are imperious masters. It is only this intimacy that can furnish any adequate conception of the mental and moral degeneracy that is a certain sequel of drink and drugs.

The potentiality of the habit depends more upon the duration and continuousness than upon the quantity of the intoxicant. While many of these habit cases are cured, it is physiologically and psychologically impossible that these patients can ever be what they would have been had it not been for their dissipation. One hundred and twenty-five consecutive autopsies of alcoholics made at Bellevue Hospital showed not one normal heart. This is only a slight indication of the disastrous pathology of alcohol, and even if no appreciable damage has been done to the physical organism, no kind of treatment, however well advised and long continued, can successfully blot out the page of memory. It is greatly to be desired that we get away from the short time treatment of these unfortunates.

The idea that a habit that has been the acquirement of years and that has become a part of the very self can be removed in four or six or ten weeks is a deplorable mistake that has taken hold upon the medical profession through the influence of the semi-professional cures that occupied so prominent a place in the public mind a few years ago. So universally has this idea pervaded the mind of the average laymen that they look upon the institution as in it for graft that insists upon a long time treatment; and, as for the patient, his judgment is not worthy of consideration. There is an exaggerated ego that is a prominent characteristic of practically every alcoholic, and just as soon as they are relieved from the acute symptoms of their last debauch they have a supreme confidence in their ability to forever afterwards refrain from drinking, which they express with assurance and elation that would make the saints in heaven seem like pygmies in comparison. This confidence amounts to a genuine delusion. This state of mind, together with a moral degeneracy which is in a greater or lesser degree always a concomitant, are among the symptoms of this class of cases that taxes the ingenuity and the patience of the

physician and the tactful resourcefulness of both physician and nurse.

I am thoroughly convinced that the State of Ohio should enact a law similar to that which is now on the statute books of some of the Eastern states empowering the proper authorities to commit such alcoholics and drug habitues as are judged to be irresponsible by the evidence of friends and at least two physicians to either a state inebriate hospital or to a private institution for those who prefer it, such private institutions to be responsible to the state for their faithfulness and honesty. These unfortunates need protection against their own impulses, and the public needs protection against them. There is a gradual evolution of sympathy and compassion for the alcoholic, but the masses still look upon them as vicious violators of the state and moral law. With the efficiently organized medical profession of today I believe the time will soon come when this subject will receive the attention from our legislators which its merits demand.

DISCUSSION.

Dr. Gaver, Columbus: I think this is a matter of much value, not only to the medical profession, but to the educational profession and in many other lines of work. I am much impressed with the fact, and I believe it is a fact, that there is a great potentiality in the matter of habit. It is the very thing which makes it possible for us to live at all. Were it not for the fact that through the potentiality of habit we can learn to do things automatically we would have a strenuous time living. If we had to apply our volition and our cerebral acts with everything we did, we would be very fully occupied with merely living. So I think the potentiality of habit helps us out very greatly in this respect.

I am glad the doctor touched on the matter of inebriety, and I would like to emphasize the matter of the potentiality of the dipsomaniac especially. I believe he is such an individual and is so badly endowed even before he ever gets a touch of liquor. I think there is a diseased condition from the endowment of that individual. He has a peculiar array of symptoms. He has the mental depression, the sleeplessness, the discomfort and many storms that trouble him. He himself does not understand it, and from this fact alone the thing is a condition which has been thrust upon the individual by his ancestry or some peculiarity in his endowment. As for the dipsomaniac and the common drinker, there are three important things that make us feel there is a distinction there. One of these things is the periodicity of the condition. He does not drink daily; he does not want to drink daily. He does not crave the alcohol every day, but at intervals when these feelings come over him he has to satisfy them in some way. That is the difference between the man who has the potentiality of habit and the man who drinks to be

social. In the dipsomaniac there may be a lively sensation of displeasure in the drink. It is not the liquor, but the satisfaction and comfort that it gives them. They are not fastidious in their taste. This is proven by the fact that if unable to get liquor they have taken such things as vinegar, petroleum and other things to satisfy this craving of the body.

Dr. Harding, Columbus: I would conclude that we are what we are because of what has been in the past and that we will be what we will be because of what has been today, and the state should make provision for those individuals who are objectionable to society because of the faults of their previous training. I believe with Dr. Mills that this is true with regard to those cases who, because of the faults of their previous training, represent an objectionable class in society. I believe it is the duty of physicians to follow this still further. When they have patients getting into a state of chronic invalidism and morbid feeling, it is the duty of the physician to do something more than merely temporize with such cases. It is necessary to go further than to use that objectionable method of hypnotism. I do not believe anything is accomplished when such a method of weakening the patient's will power is resorted to. He should be trained, reasoned with and taught to see the faults of previous habits of thought which have led him to his present physical feelings to a certain degree, just as the man who has been properly trained in early childhood goes ahead and surmounts difficulties and makes a successful life, and such men have even died on their feet without regard to their sickness, because they were able to override things which have held them back. So with the invalid who is miserable because of a faulty construction; in order to get along like the rest of society, after surrounding themselves with good environment, they still have to learn not to yield to these things. The dipsomaniac represents a class of people more numerous than those given to drink. He is the man, to my mind, who, having unstable construction, is subject to periods of depression and ill feeling, and because he has been given an opportunity of drowning his feelings in the cup of liquor, he resorts to that suggestion as some other individuals resort to cravings for sympathy or to greater nursing and have a whole household waiting on them and trying to make them comfortable, when they are suffering from a habit of depression.

This subject of habit should be considered by the general practitioner in an effort to train a large number of people who have not been properly or sufficiently trained in their childhood to overcome these infirmities that arise from physical defects of the nervous system.

ADHERENT PREPUCE.

J. C. LARKIN, M. D.,
Hillsboro.

[Read before the Ohio State Medical Association.]

From the time that man felt himself as superior to the lower animals the prepuce has been a matter of concern. It succeeded in having itself recorded in history probably before any other part of the human anatomy. The phallus was worshiped long before the star guided the three wise men of the east to the manger where the lowly Nazarene lay cradled.

About half a dozen times each year for a number of years past I have been hurriedly called to see a baby or young child that was having fits or convulsions or suffering in some misunderstood way. Usually when I arrive the child has quieted down, and but little appears to be the matter. Nothing can be found until an examination of the genitalia is made, when an adherent, tight or inflamed foreskin is discovered.

I don't know that this is a common occurrence in the practice of other physicians, nor do I see or hear much of it mentioned in current literature, but it has occurred so often in my own experience that it has led to the excuse for presenting this brief paper on seemingly so simple a subject and calling the attention more particularly to it. Really, after all, it is the little things that count in the general practice of medicine.

We are likely to inspire more confidence and respect in the minds of parents than if we had made an early diagnosis of some rare and obscure disease.

That it is not understood among gentiles seems to be most certain, as the parents will all say, they "never heard of such a thing before." Whether this trouble is more frequent of later years I am not able to determine. In the time of Moses the custom of circumcision became a religious custom, but from the best information I can gather the object was more for the prevention of venereal diseases and cleanliness than otherwise.

The origin and history of circumcision is one of the oldest and most interesting in all history. The entire superstructure of religious ceremonies very probably originated from Phallic worship long before the history of the Bible was written. It has formed the theme for many discussions, from Pythagoras and Herodotus down to Voltaire and the present day.

From the evidence of the Old Testament, Abraham was the first to perform circumcision, which he did on himself, his son and his servants—in all, nearly 400 males.

SYMPTOMS.

The signs, symptoms and indications of adherent prepuce are as many and varied as the symptoms of the classic disease neurasthenia.

When there is irritation at this part, you have a cross, peevish and fretful child. When there is suppuration, you have fever, with marked nervous phenomena, and likely "spells" or "fits" or convulsions, as the parents may term the signs. There may be difficulty or inability to pass urine. When the glands become infected, there is marked inflammation, with pus. In this case there is usually some infected smegma, which is the origin of the inflammation. These cases are not so frequent, but give the most trouble and bother. The most frequent cases you see are those with tight and adherent foreskins. The reasons for this are a lack of proper lubrication of glandular secretions and inattention to cleanliness on the part of mothers and nurses.

After the child reaches four or five years of age, the symptoms either disappear or are not observed. When the boy reaches the age of puberty, then begins masturbation, with all its long train of neurotic symptoms. Any adhesions, irritation or trouble, however so slight, are transferred from the physical to the psychological center. Masturbation and its long train of symptoms and manifestations we are more or less familiar with, but rarely appreciate to the full extent. I am informed that among the Hebrews onanism is seldom, if ever, practiced.

In youth and early adult life the long and adherent prepuce is subject to other and more dreadful consequences—gonorrhea and syphilis.

It has filled more graveyards, wrecked more homes, sniffed out more brilliant intellects and stamped the hand of Cain more generally than tuberculosis or cancer.

From small acorns great oaks grow, and from little troubles at this point great, direful consequences in the lives of our youth develop. The special venereal diseases today are the greatest scourge that affects Christian civilization the world over. Tuberculosis and cancer are both now in the limelight of investigation on the part of the scientific world and attention of the lay press. Venereal diseases, on account of modesty or some other idiotic reasons, religious or otherwise, are not mentioned. In the medical pro-

fession except among some who devote special attention to the subject, it receives only passing notice. To the young man who presents himself to the general practitioner for treatment is told, "Oh, it is nothing but a dose of the clap," or "It's nothing but a soft sore." "It won't amount to anything." "I will soon fix you up." Venereal diseases in the mind of the youth of this country have become a joke.

In children many so called cases of convulsions can be cured by circumcision. If general practitioners will take the pains to examine the genitalia of young males regularly and systematically, they will be surprised to find how frequently there is irritation and trouble at this point.

Ordinarily a blunt probe and a little gauze will be all that is necessary to loosen and break up these adhesions and push the foreskin back. Subsequently all that is required is attention to keep the foreskin pushed back.

In other cases nothing but a surgical operation will suffice.

In this day and age of preventive measures the practice of circumcision should become more general as a preventive and hygienic measure. Every child that has a long prepuce should have it removed about the tenth day. If there is nothing at birth to warrant the operation and later trouble develops, circumcision should be done at once.

Mothers and nurses should be instructed to look after young males because the laity is lamentably ignorant on the subject.

DISCUSSION.

Leo Reich, Cleveland: In the study of anthropology it is interesting to find that certain sects before the time of Abraham practiced circumcision. They practiced this not only upon males, but females as well. Maybe the clitoris was loosened. Later on Abraham was called to practice circumcision by the direct command of God. Moses, however, did not seem to be so particular about circumcision, for the Bible records that when his own son became suddenly ill his wife "took a sharp stone and cut off the foreskin of her son." The child became well. This may be the first case of phimosis on record cured by circumcision.

A. Ravogli, Cincinnati: The question of circumcision is an important one if it has to be related to the prevention of venereal disease. However, I do not believe that circumcision is a thing devised for the prevention of these diseases. I have seen a large number of patients—those circumcised and those not circumcised—and those circumcised have suffered with the same affections like the others. I think that when the prepuce is too long or too narrow or adherent, circumcision is a necessity. This

should be practiced on the child as soon as possible, because it suffers from difficulty in urination, and it sometimes is the cause of a neurotic condition and epileptic attacks. I have seen these attacks entirely relieved after performing circumcision. It should be done, however, only when the case requires it. As a general means for prevention it is useless.

Dr. Ireland, Washington C. H.: I wish to report two cases. Just before last Christmas a lady came into my office with her boy, who had epileptic attacks three or four times a day. I suggested that the trouble was with the boy's prepuce. She said he had been treated by another physician, and the prepuce had already been removed. I found that it was incompletely removed. I tore the loose tissue entirely away and found a great deal of smegma underneath. I cleaned this out. The boy had one attack in my office and another in a week. He has had no more since and has been entirely well.

Another case was that of a little girl, three years old. She was brought to my office. She had been the patient of another physician, and he had been treating her since she was three months old for some kind of skin trouble. He had probably seen her once at his office. I was told that she had a peculiar form of epileptic attacks. I examined her genitals and found them prematurely developed. There was a constant irritation on account of withheld secretion. This was the cause of the premature development and the cause of the spasm. I did nothing with the child, and she went into the hands of another physician. They took her to another city and had her examined and operated upon. I saw the father afterward and asked him about her. After the operation she had only one or two seizures.

Dr. Youmans, New London: Occasionally I see young men whose prepuces are too small as a result of circumcision. If cases which seem to need circumcision are attended to early and with a sufficient amount of care, the foreskin can usually be pulled back and can be stretched so as to give ample freedom. Only in rare instances is there need of circumcision. In connection with what Dr. Ravogli said about the Jews, I know of no class of people having so many venereal diseases as the Jews. If we find any virtue in circumcision, we should find it there. As nature provided this to protect the glans penis, it is not right to cut it back as far as is usually done. We should be careful not to carry it back too far. It should be pulled back in order to cleanse the glans penis.

M. L. Heidingsfeld, Cincinnati: I wish to voice the sentiment of Dr. Ravogli that the Jews are by no means exempt from venereal disease. I wish, however, to repudiate the statement that they are more subject to same than other races. The true status of this question cannot be obtained from any one man's practice, but must come from the statistics of those institutions where all forms of diseases are treated—nose, throat, eye, ear, internal medicine, surgery, venereal diseases, etc.—and then, if it can be shown

that the venereal element predominates in these patients over the other diseases, then and only then can we judge of the true status of the question. This has been done, and the contrary has been established that venereal disease was proportionately less frequent among the Jews than other forms of affection. I do not believe that every case requires circumcision. I believe, however, that circumcision is good practice, even though there is no occasion for recommending it generally. Not only is the danger of venereal infection in a measure minimized, but when infection takes place the absence of the prepuce renders the future management of the case much easier and more successful. Circumcision or even dorsal incision is always attended by more or less hazard in cases of chancre and chancroid, and the lesion is very apt to extend itself over the entire field of operation, adding intensity to the infection or by complicating the case with phagadenic ulceration.

Leo Reich, Cleveland: I would like to say a word in regard to circumcision. Darwin said that when our remote ancestors climbed trees a long prepuce was necessary for protection of the glans penis, but evolution renders the prepuce unnecessary. It seems that the Hebrews were in advance of Darwin and advocated circumcision in the time of Abraham, 4000 years ago. As to venereal diseases being more prevalent among the Jews, as one colleague asserts, he is certainly mistaken. Circumcision insures hygiene and cleanliness, and is also a preventive against the severity in some venereal diseases.

J. C. Larkin, Hillsboro: My position is misunderstood in this matter. I did not mean to leave the impression that every child must be circumcised, but I did say that children who have prepuces which cannot be drawn back should be circumcised. I had a case in which the prepuce could not be drawn back, and I circumcised the child. It is the first time that I have circumcised a child of that age, but I have been compelled to circumcise children three or four years old.

The question of the origin of circumcision has been taken up from Herodotus down to Voltaire. It is said that circumcision originated among the Egyptians. It has been practiced among all savage tribes.

Often a physician cannot understand the clinical symptoms in young children until he makes an examination. He can then often refer them to an inflamed prepuce. Physicians should educate nurses to the importance of this question.

I thank the gentlemen for their courteous criticism of my paper.

Dr. Youmans, New London: I find that I did not make my statement clear. What I meant to say was that venereal diseases are just as prevalent among the Jews. If we find any virtue in circumcision, we should find it there.

TREATMENT OF INTOLERANCE OF QUININE.

Nogara reports a case of threatening acute malaria in which the necessary quinine caused convulsions, with fever, whenever it was taken. After ineffectual trials of various preparations of quinine, with the same disastrous results, he decided to place the patient under the influence of morphine plus atropin. Under the influence of these drugs he tranquilly injected up to fifteen grains of quinine without further disturbances, which promptly arrested the threatening symptoms.—*Gazzetta degli Ospedali e della Cliniche*, Milan, via J. A. M. A.

ANOTHER ANTIDOTE FOR CARBOLIC ACID.

The common antidote for carbolic acid, alcohol, is, as a rule, satisfactory, but common cider vinegar is equally good. The credit of first introducing it as an antidote for carbolic acid poisoning is given to Dr. Edmund Carlton. Externally in full strength it quickly restores the color and functions of the skin that have been injured by the acid and removes soreness and other ill effects. Internally it is used diluted one-half or two-thirds, according to the strength of the vinegar, and is slowly administered in teaspoonful doses.—*Med. Summary*.

A new mode of securing local anesthesia, recommended by Bier, is adapted to certain operations on the extremities: The limb is first elevated and rendered bloodless by the application of a constrictor. Tourniquets are then tightly applied above and below the proposed field of operation. Under infiltration anesthesia a principal vein or one of its tributaries is exposed in the distal portion of this field. Through a canula secured in a small longitudinal incision in the vein, 50 to 100 c.c. of a one-half per cent solution of novocaine are introduced. The injection of the solution is made under considerable pressure in order to distribute it through all the tissues between the tourniquets. In from three to five minutes complete anesthesia is obtained which continues for a length of time sufficient to perform any operation. At the completion of the operation, and before removing the tourniquets, the novocaine solution is allowed to escape; as an extra precaution the veins may be washed out with saline solution.

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A MATTER FOR CONSIDERATION.

The JOURNAL is now entering upon its sixth volume, and has, we believe, established itself as an important factor in organization work.

The greatly increased number of papers read at the annual meetings has rendered it impossible to publish original articles read at other meetings, except under society news, and it has been usually necessary to abstract them even then.

The increasing number of Sections will bring still more papers, so that it will either be necessary to enlarge the JOURNAL or to abstract some of the papers read at the annual meeting. Of these alternatives we would prefer the former as it would permit also the publisher in full of some of the very excellent papers read at the District and County meetings. This would entail additional expense, which, under the present necessary restrictions as to advertising, could hardly be met by the JOURNAL.

The enlarging scope of organization work also is demanding greater expenditure of money. The necessary legislative work, educational propaganda and the like require funds. A special collection was taken a year ago with a very gratifying result. It

would be irksome to repeat it so soon, but the work is permanent and permanent funds should be supplied. This we believe could be provided very easily by a slight increase in the annual dues.

Correspondence with the various State Associations shows out of 38 responses that the annual dues range from two to five dollars, and that but one other state, Alabama, has one dollar for state dues.

With a great field for usefulness opening before the state organization, the latter will be greatly handicapped unless some provision is made for more funds. An increase of a dollar per capita would provide amply for this work, and tremendously increase the usefulness and effectiveness of the State Association.

REVOKING LICENSE.

In the December JOURNAL the action of the State Medical Board in revoking the license of one Miller for advertising extravagant and untruthful claims was endorsed, and the hope expressed that the Board would exercise its administrative functions with a strong hand.

It would appear to us that herein lies a great opportunity for usefulness, and that

if the Board has not full power to act in checking unworthy practitioners who abuse the confidence of the people and stultify the medical profession, the laws should be amended to grant it such authority.

There is one abuse, meanwhile, which the Board may lawfully attack with the prospect of accomplishing greater results than the whole medical profession, public opinion, the courts and the church have been able to attain, and this is in checking criminal abortion.

This crime is becoming more frequent than ever. Insidiously it has permeated all classes of society; from the highest to the lowest we find its traces, and rightfully or wrongfully, the medical profession bears a certain odium for the action of a few of its members. For we believe that only a few, comparatively, of criminal abortions are produced by practitioners at all within the pale. The medical profession has taken a strong stand on this question; the feeling of *noblesse oblige* is so against it, and all medical training is so contrary to this destructive tendency that a suspicion of being an abortionist causes glances askance, and coolness of greeting which speak volumes and help to restrain the morally weak who might otherwise fall.

The skirts of our profession should, however, be cleansed entirely from this evil. Unquestionably there are in our midst a number of men so lost to all decency that they repeatedly and habitually perform this crime against society, humanity, religion and the statutes.

The reason lies in the practical immunity from all punishment under the existing laws. With but the slightest pretence of secrecy, and observing only ordinary precautions the abortionist once started, goes on his way with but little fear of punishment.

The whole trouble is based on the present requirements of the laws intended to stop the practice, but which, together with the

restrictions of testimony in criminal courts, really protect it. A new law doubtless will be introduced in the near future, but in the meantime the State Board may take up the work and accomplish a great deal.

Without the restrictions as to the introduction of testimony, the State Board can investigate cases and revoke licenses in instances where it might be impossible to convict in a criminal court. As the Supreme Court of Nebraska states in the *Munk vs. Fink*, "In a trial under such a complaint it is not necessary that the proceedings should be conducted with that degree of exactness which is required on a trial for a criminal offense in an ordinary tribunal of justice." In this case the Supreme Court upheld the action of the State Board.

With the general co-operation over the state in supplying information, gathering information, gathering testimony and the like, a great good may unquestionably be accomplished and the vile stigma be removed which smirches the fair fame of our profession. A few cases of licenses revoked will work wonders, and the fear of such action by the State Board will have a far greater effect than the fear of the courts has ever brought about.

VITAL STATISTICS LAW.

The new Vital Statistics Law, passed by the last session of the legislature, was put in force on December 20. Heretofore, it has been impossible to obtain this much-needed legislation. While Ohio is the fourth state in point of population, yet it has neglected any accurate system of registration of births and deaths. Michigan and some other states have for years had a complete system of vital statistics, and from year to year various states have been added to the list. The states at this time having a complete system of registration are all of the New England states, Maryland, Pennsylvania, Michigan, Indiana, Wisconsin,

Minnesota, South Dakota and California. The Ohio law is considered the model registration act at this time, and should receive the earnest support and co-operation of every physician in the state. This work being new to most of the physicians throughout the state, except to those located in a few of the larger cities, many of the requirements for the time being will seem useless. Upon looking forward to the individual interests of the citizens of this state, these requirements are necessary, as the original records are permanently preserved at the capital of the state, and in many instances the various certificates of birth and death will be of value in establishing inheritance, the settlement of pension and insurance claims, as well as of genealogical value.

The main requirements of physicians are as follows:

DEATH CERTIFICATE.

Section 5. The body of any person whose death occurs in the state shall not be interred, deposited in a vault or tomb, cremated, or otherwise disposed of, or removed from or into any registration district, until a permit for burial, removal or other disposition shall have been properly issued by the local registrar of the registration district in which the death occurs. And no such burial or removal permit shall be issued by any registrar until a complete and satisfactory certificate of death has been filed with him, as hereinafter provided. * *

BIRTH CERTIFICATE.

Section 13. It shall be the duty of the attending physician or midwife to file a certificate of birth, properly and completely filled out, giving all of the particulars required by this act, with the local registrar of the district in which the birth occurred, within ten days after date of birth. And if there be no attending physician or midwife, then it shall be the duty of the father or mother of the child, householder or owner of the premises, manager or superintendent of public or private institutions in which the birth occurred, to notify the local registrar, within ten days after the birth, of the fact of such a birth having occurred. It shall then, in such case, be the duty of the

local registrar to secure the necessary information and signature to make a proper certificate of birth. * * *

SHALL REGISTER WITH LOCAL REGISTRAR.

Section 16. Every physician, midwife, and undertaker shall, without delay, register his or her name, address and occupation, with the local registrar of the district in which he or she resides or may hereafter establish a residence; and shall thereupon be supplied by the local registrar with a copy of this act, together with such rules and regulations as may be prepared by the state registrar relative to its enforcement. * * *

Let all co-operate in making this new departure a success and so remove the reproach so long resting upon our state reputation.

EDITORIAL NOTES

NOTES ON THE EXAMINATION OF THE EYES OF 3094 VILLAGE SCHOOL CHILDREN.

During February of 1907 THE JOURNAL published notes by Leigh K. Baker, of Cleveland, showing that 13.7 per cent. of the elementary school children of East Cleveland village had abnormal distant vision. In October, 1908, THE JOURNAL published notes from the same source showing that of the 2176 elementary children of East Cleveland and Lakewood, Ohio, 13.6 per cent. were found to have abnormal vision for distance. Since these dates recent examinations have brought the total number of village children examined in the same manner by the same examiner up to a total of 3094. Several statistics are included in the following table:

	No.	P. C.
Total number examined.....	3094	
Number with abnormal vision for distance	420	13.57
With excessive farsight (usually with astigmatism also)	225	7.27
With nearsight (usually with astigmatism also)	176	5.69
Having glasses when first examined.	168	5.43
Estimated as needing glasses.....	374	12.1

At first, in the case of either village, all pupils above the first grade were examined. During the last two years only second-grade pupils, and pupils new to these schools, have been examined.

When the vision test is made with the test letters, Galle's test for hearing is also made so as to discover appreciable cases of deafness.

It will be noted that the statistics are similar to similar examinations conducted by school oculists in London and Philadelphia.

The ophthalmoscope, as usual, revealed a percentage of pupils with excessive farsight whose vision for distance was normal. Another percentage should be normal except for some functional disturbance. From the latter the optometrist has had his reward in not a few cases. It was noted, however, that many of these cases soon discarded glasses.

Two hundred and sixty high school pupils are included in the 3094 pupils examined. Of these, 16.1% had worn or were wearing glasses. In November, Mr. Kirk, superintendent of the East Cleveland schools, reported to his board that three-fourths of the parents who had received suggestions from the examiner had taken action in accordance therewith. Mr. Frederick, superintendent of Lakewood schools, gave in a similar estimate last spring in regard to Lakewood pupils. It is quite certain that whereas about one-third of the pupils who would be benefited through the use of glasses had them when the examinations were instituted, at least two-thirds of these pupils are now wearing them.

For the benefit of the pupils as a whole it is likely that more was accomplished through instruction and suggestions about the hygiene of the eyes to parents and pupils than through suggestion to get glasses for the seven or eight percent of pupils who needed but did not have them at the time of examination.

Mouth breathers were examined and parents notified whenever the nose and throat needed medical attention. Not a few of these cases were found. Approximately one-fifth of the letters to parents recommending treatment related to cases of this nature.

CONTRASTING VILLAGE AND CITY.

The showing for village children is better than for city children. After several years of experience in making vision tests seven to eight hundred of the Cleveland city teachers, in the six upper elementary grades, in 1902-3, reported 18.6% of the children as having defective vision. The author examined over 7,000 of the children so reported with the ophthalmoscope and found quite a large proportion in which the trouble was merely functional. But the majority of those reported by teachers had errors of refraction needing correction. Probably fifteen or sixteen percent of the Cleveland city children, as against twelve or thirteen percent of the suburban children, would receive more or less benefit through more or less use of accurately fitted glasses.

On page 39 of the annual report of the 1907 report of the Cleveland schools it is stated that in an East End school, of the 668 pupils examined, 32.4% have defective vision, while of the 616 children in one of the schools in a congested district, 71.1% have defective vision. It was impossible to find such conditions in the city schools half a decade ago. No wonder that the superintendent closes this section of his report by suggesting medical supervision to the board of education. (In fairness it should be said that the above statistics, showing half of the city children with defects of vision, were not taken by the grade teachers or by medical men.)

On page 41 of the same report it is stated that 13.3% of the children of the previous years' enrollment—8,595 children—are three or more years behind their grade. There is little opportunity for error here and this should be regarded as a very significant statement in relation to school economy. This is about the percentage of those whose defects really show as a handicap in the school course. The superintendent estimates that the loss of grade by these pupils costs the city over \$200,000 per annum.

INFORMAL CONSULTATIONS.

You have all stood on the curbstone listening to some tale of woe from some one too stingy to come to your office, taking up your time when you were wanting to step into your carriage or car and hurry away to a patient. The English call it "cross counter consultation," probably from the frequency of counter prescribing by chemists or druggists. The French speak of the habit as *table d'hôte clinique* or winter garden practice. The billboards along the railroad recommending;

"This, that or the other pill or potion for

This, that or the other ill or notion" leads to a new idea, that of "therapeutics by rail." The writer well remembers being called in as a witness in a divorce case just from one of these informal consultations. Such prescriptions should be short, sharp and decisive.

SECTION NOTICE

The Eye, Ear, Nose and Throat Section program for the Cincinnati meeting, May 4, 5 and 6, is about half filled, even at this early date, and those who would like to contribute a paper to this meeting, which promises to be an exceptionally good one, should send in their application as soon as possible. All papers are limited to fifteen minutes and the discussion to five minutes. Dem-

onstrations of original methods and instruments are solicited. The principle address of this section will be delivered the evening of May 4 by Frank Allport, of Chicago, on some eye subject. Every eye, ear, nose and throat specialist in Ohio is invited to attend this meeting and participate

in the discussions on the various papers, and we also invite all general practitioners who care to come. Applications should be sent to Wade Thrasher, secretary and treasurer, Eye, Ear, Nose and Throat Section, Seventh and Race streets, Cincinnati.

MEDICAL ECONOMICS

PUBLIC POLICY IN THE LEGAL PROFESSION.

Public policy is getting hold of the legal profession for the same reason that it is directing the efforts of the medical profession. The committee on ethics of the American bar, at its Seattle meeting in August reported to that body a code of ethics which is intended to correct certain abuses of the public interest. This code declares that it is the duty of the lawyers to prevent litigation, to make peace instead of legal warfare between individuals inclined to litigation. Grievances of attorneys against judicial authority should be taken to proper tribunals; the practice of discussing privately the merits of cases with trial judges is condemned; the law's delay on technical grounds, the play of politics in the election of court officials and the proper adjustment of fees enter the code. Rendering of decisions on the merits of the case and not on legal technicalities, personalities between counsel and flattering juries are unprofessional.

It behooves the legal profession to become more ethical in order to eradicate the disrespect of the courts. The new code is based upon this fact. The American bar and American medicine have each awakened to the fact that its movements are primarily in the interests of the American people; that professional ethics, rights and duties among members of the same profession and toward the public, and public policy, must enter alike the processes of the law and medicine.

Quacks and all manner of unprofessional conduct must go in order to maintain the honor and dignity of both professions. Reorganization of the medical profession began about six years ago. It is gratifying to see attorneys take steps with the physicians in this altruistic movement for the elevation of professional standards.

In the interest of medicine and the public the state has adopted medical standards represented by curricula in universities and in the statutes providing for state sanitary and medical boards. The public health and medical practice are thus

regulated. In the face of these facts how is it possible for legislatures to consider seriously bills which propose other state medical boards with authority to make physicians out of nurses, opticians, neuro-magnetic healers, mechano-therapists, faith curists, etc.? These bills are in conflict with state medical standards. These standards prescribe at least a high school education as an entrance qualification, a four year course in a reputable medical college and final qualifications before the State Medical Board. Men now venturing the practice of medicine in any of its branches are thus qualified. In this way the state qualifies men for its own protection in courts of justice, military service, public office and public institutions. Besides, the state affords the same protection to its citizens. When legislatures propose to let down the bars to medical practice in any of its branches, as thirty-one members of the House did last winter, to admit the so called non-medical healers without standard qualifications, the worth and dignity of state medicine as now fixed by statutes are ignored and violated by class legislation. Such legislation implies the consistency and the policy of repealing all laws now in force regulating medical practice. A return to the fraud and evil of quackery practiced upon an unprotected people would demonstrate the virtues of medical practice regulation according to present standards.

The misunderstanding of psychic phenomena has given rise to a kaleidoscope variety of faith healing and religious cults. Theosophy, spiritualism, Eddyism, Doweyism and others are based upon the misinterpretations of the wonderful powers of the sub-conscious mind. This is not strange, for the reason that the conscious mind is not cognizant of the operations of subjective mind.

Modern psychology explains all sub-conscious phenomena. It explains hypnosis, multiple personality, automatic writing, mindreading, catalepsy, hysteria, psychothermia and other nervous diseases. It teaches that the law of suggestion controls the sub-conscious mind, which in turn controls the organic functions, reaching the de-

duction of healing by suggestion. Psychology teaches that mental healing depends upon some form of faith as a means of suggestion. Faith may attach to any vehicle of suggestion, as charm, amulet, placebo, incantation, manipulation, theory or sacred thing. Therapeutic faith resides in physical means, electricity, medicines, charlatanry, religious doctrine, psychic training or psychotherapy, properly so called. Any of these means, it is well known, in the hands of tactful, self confident healers, act as vehicles of suggestion. So far as cures are concerned, it is of small importance which of these means he employs. Dubois says: "The nervous patient is on the path to recovery as soon as he has the conviction that he is going to be cured; he is cured on the day he believes himself to be cured."

As concerns science, it does make a difference as to whether people shall be taught to attach their faith to false doctrines, false theories and absurd practice, simply because in the hands of ignorance and trickery they produce therapeutic results.

It must not be overlooked for a moment that psychic therapy rests upon the exercise of psychological powers, through the medium of some form of suggestion that the operations of suggestion and faith are purely psychological phenomena. Faith is a means of cure, as food is a means of nutrition. The essential nature and power of cure rest in subconscious faculties as nutrition depends upon metabolism. The absurdity of claiming that therapeutic power resides in any form of faith or means of suggestion is evidenced from the array of doctrines and methods employed by faith curists and non-medical healers.

The belief of cured patients in the vehicles of suggestion is quite natural. They look upon the method, doctrine or thing as having curative virtue. The faith curist or non-medical healer who teaches that a subtle power is inherent in his method, means or doctrine as the curative agent is either ignorant or dishonest. The exorcist, the Doweyite, the magnetic healer, the osteopath, the Eddyite, etc., from incantation to prayer exercise in the patient special forms of faith. Their doctrines do not teach the truth of psychological science.

When religious faith is turned to therapeutic uses, it must conform to the limitations and truths imposed by science, as proposed by Lindall in his famous prayer test. The order of nature on the metaphysical, as on the physical plain, is determined in all its phenomena by unchangeable law.

"All are but parts of one stupendous whole,
Whose body nature is and God the soul."

Modern psychology asserts that religious faith, under the law of suggestion, affects no change in the supplicant, aside from those produced by psychic powers. Dr. Worcester, of the Emanuel movement, places mental healing on a scientific basis in all respects excepting the religious form of faith which he teaches is not confined to therapeutic uses. He subscribes to modern psychology as the basis of mental treatment. He recognizes the law of suggestion and the various forms of faith as psychic phenomenon in mental treatment. He recognizes the psychological nature of religious faith and prayer; nothing more could be desired by science. The status of the movement toward science is jeopardized when it is claimed that religious faith effects something more than mental influences. After coming out on a platform of modern science, this claim shows a relapse into theological doctrines concerning the intervention of God in this form of faith in answer to prayer. This looks like a new edition to Christian Science. Mental healing taught on this principle degenerates into faith healing akin to other non-medical healers who build systems and methods upon the means used in suggestion and to which faith naturally attaches. Science insists on measuring mental healing within the limitations of psychology. Dr. Worcester has qualified within the limits of science. He then scales the walls of metaphysics and proclaims Divine intervention in answer to prayer. He says under the influence of prayer wonderful recoveries have taken place. Perhaps the most remarkable example of the power of prayer in sickness is that of Luther and Malanchthon. Did the Supreme Being cure Malanchthon in answer to Luther's prayer? Is mental healing of human or Divine power? Is it to be psychological or theological?

Psychology will not suffer itself to be grafted upon the theological tree and allow its fruitage to be gathered by religious doctrines. The same opposition is made to the confiscation of other forms of faith.

The controversy turns upon psychology of religious faith and prayer. Mental healing does not mean the cure of disease by means of hypnotism, placebo or prayer because they happen to serve as vehicles of suggestion. Mental healing is not faith cure. It means the re-education or psychic training of the individual in accord with auto-suggestion. He should be taught that the direct means of cure lie within the grasp of his own mental activities that the agencies coming from without are subordinate to the majesty of his own psychological powers.

STATE BOARD NEWS

Questions in the recent examination by the State Board, held in Columbus on December 8, 9 and 10, were as follows:

EXAMINATION IN PHYSIOLOGY.

1. Describe the sense of taste.
2. Describe, as briefly as possible, the composition of the blood.
3. What physical factors are concerned in blood pressure?
4. What artery carries venous blood, and what vein carries arterial blood? Why?
5. What is peristalsis? Describe that of the stomach.
6. Describe the salivary glands. What is the function of their secretion?
7. What is glycogen, and how is it formed?
8. Describe a diet to reduce or prevent the formation of fat.
9. How is oxygen conveyed to the tissues?
10. Explain how valvular insufficiency produces disease of the kidney.

H. H. B.

EXAMINATION IN OBSTETRICS.

1. When is ballottement available as a sign of pregnancy? How is it obtained? What value attaches to this sign?
2. What is the cause of face presentations? What danger attends them?
3. What advantage is secured to mother and child by flexion of the head at the brim?
4. Make a differential diagnosis between pregnancy and ascites.
5. What is the vertex?
6. Name the longest and shortest diameters of the fetal skull and give their measurements.
7. Give your reasons for recommending Cæsaræan section in a given case rather than craniotomy.
8. Where is the fetal heart usually heard in R. O. A.?
9. How distinguish one shoulder from the other when the hand and arm cannot be reached?
10. What data, obtained wholly by external examination, would lead you to suspect a breech presentation?

E. J. W.

EXAMINATION* IN DISEASES OF WOMEN.

1. Give etiology and treatment of acute mastitis.
2. Give etiology and treatment of phlegmasia alba dolens.

3. Give leading causes of chronic pelvic congestion.

4. Classify pelvic tumors.

5. Give early symptoms of uterine cancer.

H. E. B.

EXAMINATION IN DISEASES OF CHILDREN.

1. Differentiate between peritonsillar abscess and torticollis.
2. Give in detail your treatment for the removal of the tapeworm from the intestine.
3. What are the physical signs of empyema?
4. How would you treat enuresis?
5. Give the etiology of acute otitis media.

J. A. D.

EXAMINATION IN PRACTICE AND PATHOLOGY.

1. Describe the technique of the laboratory diagnosis of diphtheria.
2. Differentiate between morphine narcosis, uremic coma and alcoholic coma.
3. Differentiate between eclampsia and a convulsion due to hysteria.
4. Differentiate between acute appendicitis and enlargement of the gall bladder.
5. How is bone repair accomplished after fracture?

J. A. D.

6. Give symptoms and treatment of intestinal hemorrhage of typhoid fever.
7. Define constipation. How would you treat it?
8. Give the symptoms and treatment of ptomaine poisoning.

J. M. S.

9. Give the pathology, symptoms and treatment of dysentery.

10. Define and classify auto-intoxication.

H. H. B.

EXAMINATION IN MATERIA MEDICA AND THERAPEUTICS (Regular).

1. What effect does chloroform anesthesia have upon blood pressure? What are its signs of danger, and how combat it?

2. State briefly the dietetic and therapeutic principles which should govern the treatment in a beginning arterio-sclerosis.

3. In what respect does the red iodide of mercury differ from the yellow iodide? In what amount is each given?

4. Describe the physical properties of guaiacal carbonate. Give some of its therapeutic uses.

5. What is Basham's mixture? Give its pharmacopœial name and some indications for its use.

6. Give some therapeutic indications for transfusion.

7. What would enable you to recognize poisoning by the cyanide group?

8. Suggest a diet for a patient with typhoid fever of moderate severity and without complications.

9. What form of arsenic is used in medicine? State the preparations that are chiefly employed and how given.

10. What is an idiosyncrasy in therapeutics?
E. J. W.

EXAMINATION IN SURGERY.

1. Give the symptoms of suppuration in pelvis of the kidney.

2. Give three methods of disposing of the appendiceal stump.

3. Give briefly the surgical anatomy of the common bile duct.

4. Describe a method for correcting deviated septum.

5. Classify fractures and give treatment of a green-stick fracture.

6. Classify dislocations and give treatment of dislocated shoulder.

7. Describe osteoma and give treatment.

8. Give in detail surgical treatment of tonsils and adenoids.

9. Give symptoms and surgical treatment of vesical calculi.

10. Give treatment of urinary retention from enlarged prostate.

H. E. B.

EXAMINATION IN CHEMISTRY.

1. In a specimen of urine, specific gravity of 1030, for what would you test? Give test. What disease would you suspect?

2. Explain the constitution of the fats and the process of saponification.

3. What impurities in water can be determined by chemical tests?

4. What is the function of NaCl in the animal economy?

5. What is sodium hyposulphite and its uses?

6. What compounds are known under the name of carbohydrates?

7. To what is the acidity of the gastric juice due? How would you determine same?

8. Name two antiseptics, two disinfectants, and two deodorizers.

9. What is amyl nitrite? Give its properties and uses.

10. Give the properties and uses of formaldehyde.

J. M. S.

EXAMINATION IN ANATOMY.

1. What are aponeuroses and what office do they perform?

2. Describe the mammary gland; its structure.

3. Describe the clavicle. With what does it articulate?

4. Describe the thyroid axis, giving branches and their distribution.

5. Enumerate the bones of the carpus in rotation.

6. Give branches of the fifth cranial nerve, their points of exit from the cranium and their distribution.

7. What are sinuses and where found?

8. Where and what is the pouch or cul-de-sac of Douglas?

9. Name the muscles which bound Scarpa's triangle.

10. Name the tunics of the eyeball. The humors.

S. M. S.

EXAMINATION IN PHYSICAL DIAGNOSIS.

1. Mention aphasic symptoms with reference to localization of the lesions.

2. Mention diagnostic indications from the character of the cough.

3. What pathological significance is derived from a naked eye examination of the sputum?

4. What pathological meaning is found in pulsating jugulars?

5. Mention the alterations of the field of vision and their pathological significance.

6. Give diagnostic significance of the fur or coating of the tongue.

7. What diagnostic hints are obtained from enlarged lymphatic glands of the neck?

8. What pathological conditions may be ascertained from the palpation of the stomach?

9. What are the indirect effects of the valvular lesion on the lungs?

10. What pathological indications are derived from an abnormal area of dullness in the cardiac region?

A. R.

BOOK REVIEWS

OBSTETRICS FOR NURSES. By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern University Medical School, Chicago. Third revised edition. 12-mo. of 512 pages. Fully illustrated. Philadelphia and London: W. B. Saunders Company. 1908. Cloth, \$2.50 net.

The prompt appearance of a third edition of this popular book shows that the object of the

author in combining the subjects of obstetrics for nurses and actual obstetric nursing has been successfully attained and received merited recognition.

Part I includes a brief discussion of obstetrics condensed and generalized, but sufficient to give the student nurse a good fundamental grasp of the subject.

Part II considers the duties of the nurse during labor and puerperium, including the various obstetric operations, with the after-care.

Part III treats of the pathology of pregnancy, labor and puerperium, and the nurse's part in the care of such conditions. Chapter VI in this section is an excellent discussion on the care of premature infants.

An appendix adds some very practical points on technique and dietary. The author throughout treats his subjects graphically and clearly and has produced an excellent work. The illustrations are well selected and add greatly to the clarity of the text.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amary Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; assisted by H. R. M. Landis, M. D., Assistant Physician to the Out-Patient Medical Department of Jefferson Medical College Hospital. December 1, 1908. Lea & Febiger, Philadelphia and New York. Vol. X, No. 4.

The first article in this volume is by Edsall, on diseases of the digestive tract and allied organs, the liver and pancreas. This is a comprehensive resumé of the recent literature upon these subjects. Recent experiments and conclusions on gastric digestion and newer methods of gastric analysis are discussed.

The subjects of secretory activity of the pancreas and pancreatitis are well reviewed.

The chapter on diseases of the kidneys, by Bradford, especially the parts on renal tuberculosis and bacilluria, are of much interest and value.

Joseph C. Bloodgood writes on the surgery of the extremities, tumors, surgery of joints, shock, anesthesia and infections. This is a well arranged review of these subjects, the articles on shock and pyogenic arthritis deserving special mention.

Dr. Belfield presents an up-to-date review of genito-urinary diseases.

Under the subject, "Practical Therapeutic Ref-erendum," Landis presents a very valuable review of the year's advances and discoveries in therapeutics. In these pages much valuable informa-

tion in a concise form is given. The reviews of serum therapy, psychotherapy and tuberculin are especially to be commended.

The entire volume is well up to the standard of those preceding it. It is especially useful to the busy general practitioner who wishes recent advances in condensed form.

INTERNATIONAL CLINICS. Vol. III of the Eighteenth Series. J. B. Lippincott Co., Philadelphia and London.

This volume contains several articles of considerable interest. Fissier presents a new treatment for pertussis, which in his hands has given excellent results. Amagia and Mendes describe two cases of tetanus successfully treated with cholesterin under the theory that the latter combines with the tetanus poison in the circulation. These cases are worthy of note, as is anything which offers any hope in the treatment of this frightful disease.

Williams discusses the subject of hysteria in an entertaining and comprehensive manner. Under surgery, Corner details the treatment of fractures by direct internal splints, illustrating his remarks by X-ray photographs of his cases.

The various departments of gynecology, pediatrics, orthopedics, psychiatry, neurology, ophthalmology, rhinology and pathology are also represented by appropriate articles.

Numerous illustrations illumine the text and add to the clarity of the work.

A HANDBOOK OF SUGGESTIVE THERAPEUTICS, APPLIED HYPNOTISM, PSYCHIC SCIENCE. By Henry S. Muro, M. D. Second edition. C. V. Mosby Medical Book and Publishing Company, St. Louis, Mo. 1908. Cloth.

This will be an interesting book to many who wish to know of the practical applications of suggestive therapeutics, about which so much is being written and spoken at the present time.

It is written with the enthusiasm of one with almost sufficient faith to "move mountains," and, while in many respects its precepts are excellent, its author rather too often exhibits the tendency to overstep the more appropriate restrictions of functional disorders of this treatment, even to removal of fibrosis of the uterus, warts, etc.

The work has, however, many practical suggestions which will prove of especial benefit in treating that large and increasing class of neurasthenics, the exactions, whims and complaints of whom are the *bête noir* of the average general practitioner.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

OVERDOSE OF PHENOLPHTHALEIN.

Gillette (J. A. M. A., Nov. 21, 1908, p. 1782), reports the case of a child three years old who took at one time twenty-five 1 gr. phenolphthalein tablets with no ill consequences. He says:

"A tube was passed into the stomach ninety minutes after the tablets were taken and four hours after any food had been given the child. The washing was void of results. A few shreds of food were obtained, but no signs of any tablets were noted. The tablets were pink and flavored with wintergreen. There was a faint odor of wintergreen in the washings. Aside from a few fecal actions, the child did not show any effects of the remedy.

"Many physicians do not use the remedy because of the fear of systemic effects, due to a possible absorption of the remedy. Authorities seem to agree that the remedy is insoluble in the fluids of the system, and this case supports that opinion."

RADICAL TREATMENT OF HEMORRHOIDS BY EXCISION.

Hawkins (J. A. M. A., Dec. 12, 1908, p. 2058), outlines the radical treatment of hemorrhoids as follows:

"The patient is prepared in the usual manner, the bowels are emptied by a cathartic and an enema given three hours before time of operation. The anal region is shaved and cleaned thoroughly. After complete general anesthesia the sphincters are divulsed with the fingers and the tumors are located and picked up with hemostats. The lowermost tumors are removed first to avoid any blood from above obscuring the view during the operation. The hemorrhoid is drawn into the clamp with thumb and forceps in its entire length, including the internal and external portions, if both are present; then the mass is shaved off close to the tightly-closed clamp and the sutures are introduced. I am in the habit of passing a suture or ligature deeply through the tissues immediately above the end of the clamp, this ligature passing under the artery leading into the tumor, and I leave the ends of this ligature long so as to use it for a tractor if for any reason the clamp should slip or it be necessary to draw out the pedicle.

"The sutures are now passed beneath the clamp at intervals of three-sixteenths or one-

fourth of an inch and the ends left long enough to tie. After all are inserted the clamp is removed and the sutures are tied, the pedicle being steadied by the traction suture and the canal being held open by narrow steel retractors. The sutures having been tied and cut short, the next tumor is taken up and treated in the same manner, after which the pedicles are again examined, the traction sutures cut short, and a narrow strip of gauze inserted into the anal canal, its end protruding. This strip of gauze is left in for only twenty-four hours, then it is soaked with hydrogen dioxide, which softens its adhesions with the cut surfaces, after which the bowels may be moved by a dose of licorice powder or castor oil. When the patient expresses a desire for an evacuation of the bowels the nurse injects two to four ounces of sweet oil into the bowel and after the evacuation only the outer parts are washed. I have never seen infection follow this operation. A gauze compress is applied, over this a compress of sterile oakum, and all held in place by a triangle bandage.

"The bowels are moved in twenty-four to forty-eight hours. Opiates are rarely given and the patient gets out of bed to urinate. The patient is kept on liquid diet until the bowels move, then light diet is allowed. In four to six days (or earlier if he feels able) the patient is allowed out of bed with full diet, the bowels if constipated being moved every other day as described above.

"It is extremely rare to find the wound not completely healed within ten days.

"An ointment of extract of hamamelis 8 gm. (6 scruples), phenol 1.25 gm. (19 grains), and calomel 1.25 gm., in zinc oxid ointment 20 gm. (5 drams), twice daily through a pile pipe, and also after the bowels move, hastens the cure, with comfort for the patient."

[Many operators prefer to confine the bowels for two to three days, and introduce immediately following the completion of the operation a 1 gr. opium suppository. The compress should be abundant and applied so as to make a sort of cone pressing firmly against the rectum, as this overcomes the tendency to spasmodic painful contractions of the sphincter ani and adds greatly to the comfort of the patient.—Ed.]

THE CARE OF THE CONSUMPTIVE.

Under the above title Schaufler (Jour. Miss. State Med. Assoc., Nov., 1908, p. 273), discusses

five cardinal principles to be observed in the care of the individual patient. These rules are the same whether the patient be in a sanatorium or at home:

"First. The proper disinfection of sputa.

"Second. Out-door air, day and night.

"Third. Forced feeding.

"Fourth. Rest during the existence of fever, and the careful regulation of exercise at all times.

"Fifth. Supervision by a physician.

"We will waste no time on the disposition of sputa, information on this subject being now so widely disseminated. Only, besides instructions as to the care of what is spit out, caution your patient likewise against swallowing his sputum. At this point, also, let me speak a word of warning against permitting the community to get into a needless panic with regard to the danger from the proximity of the consumptive. With proper precautions on the part of the invalid, which need imply no hardship, as well as on the part of those about him, this danger may be reduced to such a minimum as not to be worth taking into account. And yet we know of health resorts that have chronic hysterics on the subject, and I have known people who objected to going into camp in the wilds of Colorado or New Mexico for fear of meeting consumptives there! Both are equally absurd.

"The second requirement, really the first for the good of the patient, is *out-door air, day and night*. Do you say this is impracticable? You are mistaken. If you are as thoroughly convinced as you ought to be of the absolute necessity of this for the accomplishment of a cure, you will be able to convince your patient of the same, and together, you and he or she will be able to bring it about. Sleeping out of doors is even more important than being out during the day, and it is more easily accomplished.

"To sleep in a room with the windows all open, unless you have windows on four sides, is not as effective as sleeping on a piazza or in a tent, with the ends and sides partly open. For remember that a closed tent may give you as bad air as a closed room. I imagine that it may be more difficult to persuade country people to sleep out of doors than town folks, for I have never occupied closer, stuffier, more objectionable bed rooms anywhere than I sometimes have in a farm house, with windows that could not be raised by any power I could exert. I have had quite a number of people—delicate women as well as men—sleeping out of doors summer and winter during the past three years, to their great benefit as well as in perfect comfort. After they have tried it for

awhile nothing could persuade them to sleep in the house.

"The term 'forced feeding' has rather an ungracious sound, and it will occur at once to the physician that many consumptives are also suffering from indigestion and cannot tolerate food. This must be recognized and heeded. It is only meant that patients shall be fed with as much highly nutritive and easily assimilable food, properly prepared, as they can tolerate, and that they shall have food six times a day instead of three. Cereals, breadstuffs, beef, mutton and fowls, the lighter vegetables and especially an abundance of milk and raw eggs constitute our main dependence for the table. It is surprising how soon the patient who lives out of doors loses his indigestion. We cannot afford to wait till they get hungry, but must insist on their taking their prescribed ration at the appointed time, so long as it does not disagree with them. Neither need a moderately elevated temperature, as a rule, forbid pretty liberal feeding.

"One of the sad mistakes that was constantly made when the consumptive was merely told to go away to some more favorable climate and to live out of doors was that these people, often with a habitual high temperature, were permitted to take a very undue amount of exercise. They thought it was for their good, poor things, and used up the little strength they had in bicycling, climbing mountains, chopping wood and carrying water in camp, and otherwise putting a harmful strain on their enfeebled lungs and failing hearts. We know better now, and forbid all exertion to the febrile subjects, making them lie still in the open air, rest and be fed, assured that if all goes as we hope it may, the time for exercise, recreation and sports will presently come.

Finally, every consumptive should be under medical supervision, not merely to be seen by the physician once in two or three weeks, but to be constantly watched, advised and guided with regard to the entire routine of life. We have no medicinal cure for consumption, but there are many things about the consumptive that require treatment, sometimes medicinal. The physician who has divorced himself from the old-time practice of cough mixtures and cod-liver oil, of chest protectors and the avoidance of drafts, of croton oil externally and creosote internally as being about all you can do, and who will heartily adopt the principles so briefly outlined above, inspiring his patient with confidence and hope, taking him into partnership in this new and promising campaign against the deadly foe, will win many a battle, the issue of which at first looked hopeless.

"You will observe that I have said nothing about a change of climate in the treatment of consumption. I still believe all that I ever believed with regard to the advantages of Colorado or New Mexico to the consumptive. But the great majority of our patients cannot avail themselves of these advantages. To our great joy we now know and may tell our people that by the observance of the rules here laid down we can give better promise for the cure of consumption in Missouri today than we used to be given in Colorado."

A HINT ON THE DIAGNOSIS OF TUBERCULOSIS.

Always say these things to a patient whom you suspect to be phthisical:

(a) Get yourself weighed by the same machine each time to see if you are losing weight.

(b) Use a thermometer two or three times each evening to see if there is any fever.

(c) Save your sputa to be tested for bacilli.

If besides auscultation and percussion these three points give negative results you may infer there is no phthisis.—Exchange.

ERGOT OF VALUE IN A CASE OF HEPATIC ASCITES.

Hood (West Virg. Med. Journal, Dec., 1908, p. 206), reports the case of a patient with cirrhosis whose condition, though not responding to calomel and alkaline diuretics, improved markedly for a time under the use of ergot. He says:

"On the 4th of April the dropsy interfered with his breathing and digestion, so we drew off two gallons of fluid. The case went along on an alkaline diuretic with an occasional calomel purge. Before the 1st of May the peritoneal cavity was so tightly filled that the fluid seemed to be seeking the cellular tissue about the hips, back and chest and up the neck to the ears. The scrotum was so distended that it frightened the patient. We advised another tapping immediately, but the patient kept putting us off from day to day. It occurred to us there should be some way to contract the cells or capillaries or put more vigor into their resisting power, and it seemed ergot would do, from a theoretical standpoint. We gave twenty-drop doses of the fluid extract every three hours, night and day, for two days, then forty drops for two days, at which time we began 3 gr. doses of calomel and soda every six hours for two days, and for two more days gave 6 gr. doses of calomel and soda, when slight pytalism was manifested and the medicine stop-

ped. After the first twenty-four hours of ergot the urine was noticeably increased and the loss of liquid by the bowels and kidneys continued. The tenth day after beginning this treatment the abdominal wall lay in a loose fold that could be doubled back on itself. There was now no pitting above the middle of the thigh. The patient rallied, appetite improved, he was able to go about his business through the months of May, June and July with edema in his legs only. In August it was noticed that the peritoneal cavity was again filling and he was given the ergot and calomel as before with marked improvement. In September the reaccumulation was again observed, the ergot did not now seem to have its usual effect and edema gradually increased in spite of the treatment, but not so rapidly as six months previously. In October he had two hemorrhages from the stomach. On November 5 we drew off the ascitic fluid again; on the 6th there was repeated gastric hemorrhage and death on the 7th."

HOW TO GIVE A "SPONGE" AND HOW TO MAKE AND APPLY A HOT COMPRESS.

Proper stimulation from a sponge bath in febrile states is often unaccomplished through lack of knowledge on the part of those giving it. Particularly is this so where patients have to be cared for outside of a hospital and without the aid of a trained nurse. As by far the larger number of sick never see either a hospital or a trained nurse, the following detailed description of how to give the bath may not be amiss. Pope (Kentucky Med. Jour., Dec., 1908, p. 723), shows the simplicity of it thus:

"I have here a few simple household utensils such as are found in every house in this broad land of ours, two basins, a kettle and half a dozen towels, and yet in this simple paraphernalia is all that it is necessary to have for the application of two important measures of hydrotherapy.

All the physician needs to sponge in fevers is half a dozen towels and two basins. Outside is the well, with water at approximately 60 degrees Fahrenheit. Take an ordinary towel, immersing it in the cold water, and first wipe or sponge the face of the patient; then the neck; next ring out the towel, dipping it again into the cold water and applying it, either around the patient's neck, if the patient is a woman, and you do not want to wet her hair, or upon the forehead as a compress. This is the first step and is done to prevent the rush of blood to the head when we apply the cold water to the rest of the body. I use a

towel in this demonstration but an ordinary crash bath rag would be very much better. It is rough and it has a little sand-paper action on the surface of the skin. A rough body rubbed on the skin produces friction, followed by dilation of the surface blood vessels. In that way we bring the blood to the surface and bring it in contact with the cold water. So the nurse after disrobing the patient, covers the patient with a sheet, sponges the face and places a compress on the forehead. Then starting with the arm, which is placed outside of the sheet, the nurse either using the towel or the ordinary crash bath rag, commences with the arm, and taking hold of the fingers just as I do (illustrating a hand grasp) sponges and rubs the arm sufficiently to produce friction. The nurse proceeds, then, to the other arm, then to one leg, then to the other and then to the back. Notice we sponge the back before we do the chest and abdomen; then to the chest and finally take the abdomen. A question naturally arises as to whether we shall dry the patient as we go along, or whether we shall leave the patient's arms and limbs wet. This can be determined easily by the vital status of the patient. If the patient is strong, leave the arms and back and chest wet; if weak, dry as you go along.

"Having finished with the sponge fold a couple of towels to make a compress and dip this compress in the cold water (60 degrees F.), wring out fairly wet and place them across the abdomen. That is, put on a wet 'abdominal compress.'"

Of the "hot compress," Pope says: "I will now simplify my apparatus by limiting it to a basin, two towels and a tea-kettle filled with *boiling* water. The majority of hot applications fail for two reasons. In the first place the application is *too wet*, and in the second the hot application is 'too cold.' Hot applications should range anywhere between 125 and 165 degrees F. You cannot handle them with your hands, in fact, they are too hot for you to pick up and hold at all. If you put these applications on the patient's skin *too wet* they blister. If you put them on only warm you lose two-thirds of the benefit of the treatment.

"Suppose that we are going to make a hot moist application or 'fomentation' to the pelvis, where we want all the heat we can get. It is best to use a Turkish towel or a small piece of blanket. If you can't get that, get a piece of an old flannel petticoat. Take this and place it right in the center of your towel. Now you have everything ready and the mistress of the house brings

in the tea-kettle full of boiling water. If you were to place it on the patient without previous preparations, you will burn her. Place around the hips, pelvis and lower abdomen a folded blanket, so applied that the ends overlap in front. Now rub the surface to be covered by the fomentation with vaseline. This prevents maceration or softening of the superficial epithelial layers. Having poured the boiling water over the flannel that lies in the water so hot that you have to keep back, two persons commence twisting the opposite ends of the towel and keep twisting until all or nearly all the water has been removed. We have in this towel, we will say, a piece of flannel at a temperature of 165°, and what does the nurse now do? She picks up the towel containing the flannel, goes to the bedside, rapidly unrolls the towel and places the hot flannel in place upon the bare skin. If the patient howls, lift it up for a second, and then put it back again. Just as soon as the patient can *tolerate* the high temperature, the fomentation is covered by the blanket which is pulled as tight as possible to prevent the entrance of the air. There is very little risk of burning if plenty of vaseline has been used.

"Usually in less than sixty seconds you will get a relief that can be gotten from no other application that I know of.

"These two procedures any doctor can use. It does not make any difference where he is, or how he is situated.

"The 'fomentation' is called by some 'a hot compress,' but that is wrong; do not call it 'a hot fomentation,' because all fomentations are hot. In conclusion permit me to again repeat that the fomentation and cold sponge absolutely interfere with no other therapy from suggestion to drugs."

THE SENSE OF WEIGHT IN THE AFFECTED SIDE: A SUBJECTIVE SIGN OF LOBAR PNEUMONIA.

Reilly (Arch. of Diagnosis, Oct., 1908, p. 353), reviewing postmortem statistics found the average increase in weight of the affected lung is two pounds and three ounces.

It seemed scarcely credible that a patient could carry an added weight of over two pounds on one side of the chest without being conscious of a feeling of heaviness or weight on the affected side. On careful questioning he found that as soon as the sensation of acute pain due to the accompanying pleural affection has passed off most patients suffering from croupous pneumonia

in any form state that they feel a sense of weight or load on the affected side. Frequently it is only on sitting upright or lying partly on the sound side that the feeling of weight will be a prominent symptom. An intelligent patient is, of course, more apt to give us a satisfactory answer, yet in young children he has often been able to elicit the symptom.

THE MORTALITY OF WHOOPING COUGH.

Though physicians do, the laity do not, appreciate the serious side of whooping cough. Physicians should impress the dangers on their clientele. Donnally (*Arch. Ped.*, Nov., 1908, p. 828), gives the following data: "In children over four or five years of age and otherwise healthy, whooping-cough is a comparatively mild affection. Its greatest incidence is in the first two years of life, and in these infant patients it is especially fatal. From 25 to 30 per cent of cases occurring in the first year of life are fatal. Fifty-seven per cent of the fatalities in the United States in 1906 occurred in the first year; 23 per cent in the second; 8 per cent in the third; 4 per cent in the fourth; $2\frac{1}{2}$ per cent in the fifth year. After puberty it is rarely fatal. In the first nine months of 1908 there occurred in the District of Columbia 33 deaths from it; during this period 440 cases, doubtless only a fraction of those present, were reported to the health officer, giving a mortality of 7.5 per cent."

BALSAM OF PERU AS A CURE FOR SCABIES.

Burke (*Amer. Jour. Derm.*, etc., Nov., 1908, p. 452), reviewing the methods and results of other clinicians, compares the use of sulphur with Balsam of Peru and decides in favor of the latter.

"First. It acts much quicker in relieving the itching and curing the disease.

"Second. It does not cause a dermatitis or eczema.

"Third. It is a better preventive of the disease spreading to others."

As to the direction of the patient, he says:

"I order them to take a hot bath, and then rub the Balsam of Peru and glycerine mixture all over the body from the neck down, and leave it on for three days, making a new application each day. The fourth day I have them take a bath

and change their underwear and report at the clinic. They almost invariably say that the first application relieved the itching and allowed them to sleep. On the second visit they are given an indifferent salve and told to return if they are not better, when that has been used up. They very seldom return."

The mixture used is Balsam of Peru 3 parts, glycerine 1 part. And he claims that no ill results on the kidneys have been observed.

Our Next Annual Meeting

The 1909 meeting of the State Association will be held in Cincinnati on the fifth, sixth and seventh of May, and a great effort will be made to have this the best meeting in the history of the Association.

Preparations are already under way by the various sections and from present indications it seems very probable that all the available space will be filled long before the time set for closing the programs.

Last year considerable confusion resulted from the fact that essayists were very late in sending in their titles. This year the rule requiring the sending of titles thirty days before the meeting will be rigidly adhered to, therefore make early application to be sure of obtaining a place.

The following is the list of officers of the sections, to whom all communications in regard to the program should be sent:

General Session: The State Secretary, 186 East State street, Columbus.

Medical Section: Chairman, C. F. Hoover, M. D., Rose Bldg., Cleveland; Secretary, John Dudley Dunham, M. D., 185 East State street, Columbus.

Section on Surgery and Gynecology: Chairman, Martin Stamm, M. D., Fremont; Secretary, W. A. Ewing, M. D., Dayton.

Section on Eye, Ear, Nose and Throat: Chairman, J. W. Murphy, M. D., Cincinnati; Secretary, Wade Thrasher, M. D., The Groton, Cincinnati.

Section on Dermatology, Proctology and Genito-Urinary Surgery: Chairman, W. I. Le Fevre, M. D., The Lennox, Cleveland; Secretary, C. M. Harpster, M. D., 701 Madison avenue, Toledo.

Section on Obstetrics and Pediatrics: Chairman, J. J. Thomas, M. D., Euclid avenue, Cleveland; Secretary, Geo. Schaeffer, M. D., The Lexington, Columbus.

Section on Nervous and Mental Diseases: Chairman, Brooks F. Beebe, M. D., 403 Broadway, Cincinnati; Secretary, S. P. Fetter, M. D., Gallipolis.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

The Butler County Medical Society met December 10. The program was as follows: Report of cases; paper, Henry Krone, Hamilton; "Some Clinical and Therapeutic Features of Syphilis" (demonstrated from fifty colored lantern slides), M. L. Heidingsfeld, Cincinnati; "Thermal Therapy," W. T. Shipe, Middletown.

The following officers were elected for the year: President, H. L. Burdsall, Hamilton; vice-presidents, H. M. Moore, Hamilton, C. D. Lummis, Middletown, and P. M. Sater, Hamilton; secretary, Henry Krone, Hamilton; treasurer, G. M. Cummins, Hamilton; committee on public policy and legislation, G. M. Cummins, Hamilton.

The Brown County Medical Society met Tuesday, December 22. The following program was carried out: "Typhoid Fever and Its Management," George P. Tyler, Ripley; dinner at the Logan House; "Some of the Newer Things in Obstetrics," E. Gustave Zinke, Cincinnati.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

"Business and Ethics in Their Relation to the Practice of Medicine" was the paper read before the Miami County Medical Society December 3, by James E. Murray, Piqua. The following is an abstract:

One of the reasons why the physician is thought to be a poor business man is because he is engaged in a poor business, for, as a business venture, the practice of medicine is a bad one to begin with. The money outlay or investment in the medical education of four years' study, counting the young man's time to be worth \$1.50 per day for every week or working day in each of the four years, and his actual expenses, tuition, etc., at a thousand dollars per year, he has invested in the venture \$5878 before he has equipped an office and paid his first month's rent. He must add to this for his office equipment and expenses until self supporting, and the interest compounded on the venture from the first dollar spent and other incidental expenses would easily make it \$7000 before the first tardy dollar gets by all that opposes and reaches his eager hand.

I call attention to all this to show that the business side of the proposition is a snare and a delusion. I have no argument to produce in favor of the physician as a business man, for his business, as a rule, is not worth half that he pays

for it and never will be until conditions change that govern and control his cash receipts and legitimate income. It is said that the average patronage of the physicians of Ohio is about 500 persons, or 100 families, and the average cash receipts about \$1500 per year, or about \$4 per day. Deducting from this the interest on his investment in his business at 6 per cent., he has \$1040 left, or about \$3 per day. Then, when he has paid his actual expenses, horse board, office rent, light, phone, etc., and before he has eaten a bite or worn any clothes, he has left less than \$1.50 for each day and night that he has served the public and incidentally served the Lord. So that by actual figures the average income of the members of our honored (?) profession in the State of Ohio is about the same as the men who work on the section of the Pennsylvania railroad and eat their dinners out of empty dinner pails.

What is there under the sun that the physician does not have to encounter before the hardearned dollars begin to come his way? First, the prescribing druggist; next the charlatans and quacks outside of the so called regular practice of medicine, and then the unethical men inside of the profession, who make it harder for the really capable man to remain ethical. Last come the patent medicines, sold, prescribed and dispensed by every druggist in every state of the Union.

If I am correctly informed, the most learned, scholarly and capable physician, under the state laws of Ohio, has no right to own or conduct a drug store unless he employs a registered pharmacist to sell the drugs and dispense the nostrums. And yet in almost every drug store the druggist poses as a doctor, as well as a druggist, and prescribes promiscuously for all the ills to which human flesh is heir.

There may be a law to prevent druggists from practicing medicine; but, if there is, it is not enforced in this section, if it is in the State of Ohio. This is one of the worst of all the evils that stand between the physician and his patients, or those who should be his patients. And it robs him of what is justly his by the right of his professional knowledge and by all the laws of the land.

The charlatan outside of the profession, with the exceptions already mentioned, under the present state laws governing the practice of medicine, are almost a thing of the past; yet we occasionally are reminded that they have been here and that a few still exist.

To me these people are as nothing compared to the patent medicines and nostrums, the prescribing

ing druggists and the quacks who are registered as physicians. The prescribing druggists starts the laity to hunting for specifics for disease, and the quacks do the rest. And when once a poor, deluded invalid starts upon this road he is an object of pity indeed, and if at last he strays into the office or falls into the hands of a reputable doctor he comes as a charity patient, who will thank God if he gets well and his friends damn the doctor if he dies.

The business side of the proposition will be no better until present laws are enforced and new laws passed and the profession awakens to a full sense of self protection and self defense. As we are required to conform to the laws governing the practice of medicine and not allowed to sell drugs, so should we insist that druggists sell drugs and not be allowed to practice medicine. The druggists were smart enough to have laws enacted that would prevent doctors from becoming druggists. So let doctors be smart enough to see to it that druggists cannot practice medicine. Surely, if in the eyes of the law a doctor is not a fit man to sell drugs a druggist should not be a fit man to prescribe for disease.

There should be a law prohibiting the sale of patent nostrums. The sale of any kind of a compound for the cure of disease should not be allowed by law any more than the sale of whisky unless on the prescription of a physician, and then only when the drugs and the amount of each is clearly designated in the prescription. There should be a law, and that law enforced, prohibiting the re-filling of physicians' prescriptions, whereby, in spite of all a physician can do, his office business is depleted and moved into the drug store. And, since county local option is such a factor in the state, if druggists refill whiskey prescriptions, any doctor can easily, yet innocently, become a barkeeper and his prescriptions be used and refilled until a prescription for a pint of whiskey can become grandfather to a barrel.

There is little for me to say about the ethical side of this question. Ethics, as I understand the term, relates to human actions, principals, rules, etc., concerning the duty of one man or person to another. And we do not have to consult a text on ethics to know when we have been or have not been used in an ethical way. And the relation that ethics bears to the practice of medicine in any locality governs the friendly or unfriendly feeling that exists between the physicians of that place. If there is a close observance of the fairness and justice and respect and honor that is due one physician by another, ethical relations may be said to exist. Good ethics

is beneficent, kind and good and seeks to injure none. Ethics in its application to the practice of medicine should make a hard road easier to travel and a hard life endurable to a degree. There is no good reason why the practice of medicine should not be conducted along good business and ethical lines, and be a more profitable and honored profession. Druggists could and would make more money if they would confine themselves closely to selling drugs and filling physicians' prescriptions, for physicians would then cease to dispense medicines and write more prescriptions. The druggist and doctor would in a way work together and to the good not only of themselves, but to the laity as well.

Good ethics should be made so popular and bad ethics such a disgrace that all doctors would seek to be more ethical and fair.

If any member of our profession practices a specialty, he should confine himself closely to his specialty, and he should realize that he cannot be ethical and expect the support and confidence of the profession if he treats other diseases common to the general practice of medicine.

The general practitioner, when referring cases to specialists, should not be made to feel that he has relinquished any claim that he may have had on the patient and the family as their medical advisor and family physician. And the physician who sends his patients to a specialist should know, and to a certainty, that the specialist is a specialist in all that the term implies.

The general practice of medicine embraces all the specialties, and to be able to diagnose surgical and operative cases and place such cases in the hands of a surgeon or specialist is one of the provinces of a physician that should insure to him a fee in accordance with the ability of the patient to pay. And the surgeon or specialist should not feel that he must have his full fee regardless of the ability of the patient to pay his family physician for prior and subsequent treatment in the case. Neither should any specialist insist on collecting a fee in full until he is sure he is not taking from the patient money that would have gone to the family physician had not the physician referred the case to him. A fair division of the available cash in such cases would be good ethics and not bad business.

I would suggest that we profit and not lose by the popular wave of temperance, prohibition or by whatever name you please to call it, that is sweeping the country, by refusing to become dispensers of alcoholic beverages, either by prescription or otherwise, and not prescribe stimulants that contain alcohol except at the bedside and

when we know beyond the question of a doubt we are not being duped into occupying the place of the barkeeper and the saloon that have so recently been voted out of business. A man's statement that his wife is ill and he wants a prescription for a pint of whiskey should not influence a physician to write a prescription for him. And it would be good business and not poor ethics to let the laity know this by the public press or otherwise and thereby save us unending annoyance and just or unjust censure. We have all to lose and nothing to gain by pandering to public sentiment or evading any question that confronts us. And we should let the laity know that we cannot be used to evade any law, and that our honor is above the paltry price for a prescription, or to retain the practice of any family by a direct violation or evasion of any law relative to the sale of alcoholic beverages.

Growing out of the new conditions brought about by the so called prohibition or county local option, we will be confronted with new problems. The poor neurotics suffering from chronic alcoholism will come to us for advice and treatment, and we should not forget that we are not preachers to look after their spiritual welfare, or policemen to put them in jail, or judges to send them to the workhouse, but remember that we are physicians, and without fear or favor deal with each case as our knowledge of disease and our experience in the treatment in such cases may warrant and sanction.

If it is a violation of the law to refill a prescription for whiskey, so should it be to refill a prescription for chloral, morphine, cocaine and many other narcotics and sedatives to which these people will resort when deprived of their accustomed stimulant. There is always hope for a drunkard, but never for a cocaine or a morphia or chloral habituate, and many of these poor creatures will jump out of the frying pan into the fire by resorting to the use of morphia, chloral and cocaine if the friendly hand of the medical profession is not stretched out to save them.

In accordance with what seems to be the fashion, no one can be blamed for seeking to make money, and I do not wish to be understood as trying to prevent any one from doing so; yet in this game I would like to see equal chances all around, or, at least, not have the rakeoff always against us. If the game in which we are engaged along with the manufacturing pharmacists cannot proceed without us, we are in a good position to see to it that the cards are dealt fairly, and that the chances are not always against us

and in favor of every one in the game but ourselves; and if their products are advertised through us until they become household remedies and the laity become so familiar with their use that we are no longer consulted by them in reference to their indications in the treatment of disease we can blame only ourselves and not the druggist for selling migrane tablets, syrup white pine compound, mentholic throat tablets, antirheumatic tablets, heart tablets and a hundred other tablets and compounds that we have helped to place on the same level with patent nostrums; and we, as physicians, should be held accountable for whatever harm they may do for allowing the manufacturers of these compounds to name the disease instead of the drugs they contain on the labels of the bottles which they so cunningly ask us to dispense from and advertise for them. Let these gentlemen who ask the profession to prescribe their stuff put the formula on the bottle and let us name it and class it, and not become dispensers of any compound that we do not know without them telling us the diseases and indications for its use. If we are physicians we know the physiological action of drugs, and we do not have to have any manufacturing pharmacist or druggist tell us how to practice medicine, and when he does he insults the entire medical profession, and as one man we should resent it, and when he sends a traveling salesman into the office of any one of us to tell us that this or that combination of drugs is a specific and asks us if we know Dr. Jones, of Toledo, or Dr. Smith, of Cincinnati, and then proceeds to tell us that Dr. Jones buys their cough syrup and cures all of his patients of all kinds of coughs, and that Dr. Smith buys their anticonstipation pills and cures every one that comes into his office of chronic constipation, the limit has been reached, and forbearance ceases to be a virtue, and surely it is time to call a halt and let them know in language that cannot be misunderstood that we need no such dictation from them.

If the State Board will take the trouble to investigate, they can prove to their entire satisfaction, if they do not already know it, that the druggists of this state are treating more men for venereal diseases than the entire medical profession of Ohio, and that oxytoxics are freely prescribed by many, and, while it seems incredible, it is nevertheless true that the diseases of women are prescribed for and their irregularities regulated by the druggists of whom we buy our drugs and who we make familiar with our prescriptions and to whom we pay a per cent. on what we buy of the manufacturing pharmacists or

druggists. The patent nostrums advertised, sold and warranted to cure all diseases peculiar to women are bad enough, but they are only a corporal's guard compared to the army of druggists that are practicing medicine and treating diseases of all kinds, regardless of the state laws, which should be regulating the practice and protecting us against such imposition.

Instead of listening to long winded and often copied essays on the diagnosis and treatment of diseases that we are all familiar with, the county and state organizations should devote more time to the discussion of ethics among its members: and when a member has acted in an unethical or unfair manner he should be made to account to his society for his action, and we should hear papers written on practical and business subjects, having for their aim the welfare and business and social benefit of every man who under the law has a right to affix M. D. to his name. This is an age of combines and concerted action, when all men recognize that in the old adage "In union there is strength" there is also much wisdom. So let us unite and cast aside whatever of jealousy there may be in us and work together as colleagues, neighbors and friends to the end that good business and ethics may be close kin to the practice of medicine and our profession profit thereby.

I have faith in the intelligence of our profession to that degree which makes me believe that all that is necessary to bring about a better business and ethical relationship is the awakening to the true situation, which will result in concert of action, and when once aroused the medical profession is a power that will not be ignored, and soon the laws now on the statutes will be enforced, and new laws passed to meet the exigencies as they present themselves to the county, state and national organizations, and if this paper plays any part in bringing to the attention of the profession the necessity of any measure whereby our profession may be directly or indirectly benefited it will have served its purpose.

We should stand together as if dominated by the impulses of one man, and without jealousy, malice or hatred in our hearts contend for all that is good and calculated to elevate or in any way make our profession more profitable and our work less irksome, and together we should frown upon and never sanction anything approaching that which is wrong, unethical or unfair or calculated to cast reflection upon the profession or rob us of anything that is justly ours, and if in the end we have contributed anything toward making our profession more honored and honor-

able and each other more comfortable and less unhappy we have not lived in vain.

The following officers were elected for 1909 by the Montgomery County Medical Society: President, E. M. Huston, Dayton; vice-president, R. S. Gaugler; secretary, Daniel B. Conklin; treasurer, Wm. F. Prather; censors, C. W. King and H. D. Rinehart; program committee, E. S. Pease; auxiliary committee, J. S. Beck.

The Second Councilor District meeting was held in the Troy Club rooms, Troy, November 12. The program was as follows:

W. J. Conklin read a paper on "The Clinical Side of High Blood Pressure and Its Treatment." The doctor gave a history of the development of our knowledge of this subject and then a summary of what is at the present time known of its nature and causes. The chief of these latter are the prevalent abnormal conditions of life, causing worry and mental strain; these in turn interfere with digestion and nutrition and load the circulating fluids with toxic substances. The toxic trinity—alcohol, tobacco, coffee—also play an important rôle. In considering the treatment the essayist spoke of the usual pressure reducing substances, such as nitro-glycerin, the nitrites, etc., but laid special stress on the necessity of removing the primary cause wherever this is possible.

J. F. Baldwin gave an address on "The Diagnosis of Surgical Diseases of the Abdomen." Before making a physical examination a careful inquiry should be made as to the family and personal history of the patient, the date of the first symptoms noted, the nature and location of the pain. Abdominal pains are apt to be misleading, and "referred" pains must be kept in mind. Zones are of some value, but not so great as their discoverer claimed. The anatomic relation of the colon to the other viscera is of great assistance, and when this organ is distended with air, as can be readily done, this help is still further augmented. Enlargements of the liver and gall bladder project forward over the colon and give a continuous dullness from above downward. The kidneys lie behind the colon except in rare cases where the pedicle of a loose kidney is very long it might override and get in front of it. The stomach lies above the transverse colon except in distension. In examining the stomach, inflation can be used to advantage either by introducing air through a tube or by giving an effervescent substance. The spleen is outward and above the colon, and in enlargement overrides it and comes down in front of it. An enlarged left

kidney, on the other hand, remains behind the colon. Pelvic growths coming up from below are surrounded by the colon like the frame of a picture. Mesenteric and omental tumors are likewise surrounded.

Blood counts are also of assistance to the diagnosis, the amount of hemoglobin, number of red cells, number of leucocytes, the differential count of the latter determining the nature of the supuration when this is present. Since appendicitis is of such frequent occurrence, and the pain it causes is often referred to the stomach or other portion of the abdomen, its presence ought to be determined or excluded in every case. This is especially true before giving a purgative which might do great damage by causing rupture of gangrenous appendix. The Morris point is not a very reliable sign. Gall bladder infection is often a frequent and grave condition. Gall stones may or may not be present, and unless they become impacted in the gall passages seldom do harm. Chronic indigestion is in the vast majority of cases due to chronic appendicitis or gall bladder infection. Chronic pancreatitis may be caused by obstruction about the ampulla vater. The bile backing up the pancreatic has a destructive effect on the cells of that organ. Cysts and cancer of the pancreas are generally difficult of diagnosis; likewise hemorrhage. A tumor of the pancreas is below the inflated stomach and above. This must be differentiated from a floating kidney or a sarcoma. In intestinal obstruction the sudden onset of intestinal colic and constipation, the bloody stool should call for a careful investigation—under anesthesia, if necessary. The patient's age may be of some assistance, intussusception being more common in youth, and cancerous obstruction, especially of the sigmoid flexure of the colon, in elderly people.

The Roentgen ray, after the free administration of bismuth, is of assistance in intestinal obstruction, in stone of the kidney and ureter bulged-in gall stones, as these are rarely dense enough to cast a shadow. It is often difficult to distinguish between cancer of the pylorus and fibrous thickening of the pyloric wall. Cirrhosis of the liver may sometimes appear without any apparent cause. No diagnosis of abdominal trouble should be made until after a careful study and interpretation of all the symptoms.

After a very enjoyable dinner served by the ladies of the First Presbyterian Church, President Silver, of the Ohio State Medical Association, gave a short address along the lines of needed legislation looking to the reform of certain

abuses, chief of which is the indecent advertisements in the lay press.

T. W. Rankin, of Columbus, read a paper on "The Treatment of Pneumonia."

The attendance at the meeting was good.

The following officers were elected for the ensuing year: J. E. Monger, Göttsburg, president; R. A. Bunn, Dayton, treasurer; A. C. Messenger, Xenia, secretary. Dayton was selected for the next place of meeting.

The annual election of officers for the Darke County Medical Society resulted as follows: J. D. Hartzell, North Star, president; H. A. Snorf, Greenville, vice-president; G. W. Burnett, Greenville, secretary and treasurer.

At the regular meeting for December of the Green County Medical Society the president, W. A. Galloway, took as the subject for his retiring address "Psycho-Therapy." As a result of this address the society will probably take up this subject for special study during a part of the ensuing year.

The Miami County Medical Society held one of its most interesting meetings of the year at Piqua Thursday afternoon. The newly elected officers for the ensuing year are: President, S. D. Hartman; vice-president, L. A. Ruhl; secretary-treasurer, Robt. Kunkle; delegate, W. J. Kelly; alternate, R. D. Burnham; censors, R. M. O'Ferrall and W. R. Thompson.

The following resolutions were unanimously adopted:

Resolved, That the physicians of the Miami County Medical Society agree not to write prescriptions for alcoholic liquors, excepting at the bedside of a patient and then only when necessary. And, further,

Resolved, That the above resolution be printed and a copy of the same be framed and hung in the office of every physician.

Dr. Burnham read a letter from C. O. Probst, secretary of the State Board of Health, relative to the establishment of depots for anti-toxin in this county, which may be secured for the use of indigent cases. These depots are in Piqua at P. I. Hedges' store, in Troy at John M. Fulkerson's store and in West Milton at a place not yet selected. The cost of this anti-toxin is met by the local board of health or by the county commissioners.

THIRD DISTRICT

H. B. GIBBON, M. D., Collaborator.

The annual election of officers of the Marior County Medical Society resulted as follows: President, J. W. Adair; vice-president, M. Bell; secretary, D. O. Weeks; treasurer, L. D. Hamil-

ton; board of censors, S. W. Mattox; delegate to Ohio State Association, C. E. Sawyer; alternate, R. C. M. Lewis, all of Marion, Ohio.

The Logan County Medical Society met in regular session December 12. J. H. Wilson read a very interesting paper on "Hypnotism and Suggestive Therapeutics." W. S. Phillips gave an address on "Causes and Treatment of Uterine Hemorrhage." Following the discussion of these papers the election of officers for 1909 took place and resulted as follows: President, W. J. Stinchcomb; vice-president, R. D. Clippinger; secretary and treasurer, F. B. Kaylor.

The post-graduate meeting was held December 17. W. W. Hamer read a paper on "Tracheotomy and Intubation." The doctor had an intubation set with him and demonstrated the manner of introducing and removing the tube. He laid great stress on being rapid in introduction of the tube to avoid a great deal of suffocation. He also stated that intubation and antitoxing and general stimulation go hand in hand in the treatment of membranous croup. W. S. Phillips brought up a point known as the inhibition area when pressed upon by the tube fitting too tightly. The heart action is interfered with, and death may occur if the tube is not changed for a smaller size. This area was discovered by Geo. Crile, of Cleveland, and was mentioned in his paper before the State Association at Springfield several years ago.

W. J. Stinchcomb named W. W. Hamer, C. E. Huston and A. J. McCracken as a committee on program for 1909.

Robert C. Chamberlain, president of the Seneca County Medical Society, entertained about thirty members and guests of the society with a banquet at the Shannon House November 19. The following interesting program was presented: "Certain Phases of the Appendix Question," Fred Fletcher, Columbus; "Valvular Diseases of the Heart," C. F. Daniels, of Tiffin. The papers were well discussed, and all present reported a very enjoyable time.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The sixty-fourth meeting of the Northwestern Ohio District Medical Association was held at Findlay on Thursday and Friday, December 10 and 11. The session was a large one and was attended by many guests from without the district. The following program was presented:

Thursday Morning.—Call to order at 10 o'clock. Divine invocation, Rev. Lester Boyce; address of welcome, N. L. McLachlan; response, J. H. Jacob-

son, Toledo; reading of minutes; report of committees; unfinished business; new business. Reading of essays: "Epilepsy—Its Mental Effects," D. C. Hughes, Findlay; discussion, W. F. Reed, Ottawa. "Ureteral Calculi," C. M. Harpster, Academy of Medicine, Toledo; discussion, J. C. Tritch, Findlay. "Treatment of Typhoid Fever," C. C. Berlin, Auglaize County Society, Wapakoneta; discussion, A. S. Rudy, Lima.

Thursday Afternoon, 1:30.—"Eclampsia," S. D. Allen, Oak Harbor; discussion, S. P. Bishop, Delta. "Dementia Precox," C. W. Sawyer, Marion; discussion, J. J. Reynolds, Defiance. "Ohio's Vital Statistics," F. L. Watkins, Bureau of Vital Statistics, Columbus; discussion, W. C. Chapman, Toledo. "The Chemistry of Pancreatitis," N. W. Brown, Academy of Medicine, Toledo; discussion, L. A. Levison, Toledo. "The Surgery of Pancreatitis," C. N. Smith, Academy of Medicine, Toledo; discussion, M. Stamm, Fremont. "Joint Inflammation of Lower Extremities," J. C. Banning, Logan County Society, Belle Center; discussion, H. J. Poole, Port Clinton. "Tuberculin as an Aid in Diagnosis," Frank Winders, Columbus; discussion, R. P. Daniels, Toledo. "Pathology of Fibrinous Pneumonia," R. J. Morgan, Van Wert County Society, Van Wert; discussion, J. A. Weitz, Montpelier. "Infantile Pyloric Stenosis," G. L. Chapman, Academy of Medicine, Toledo; discussion, H. E. Smead, Toledo. "The Pathology and Treatment of Burns," J. B. Ury, Defiance County Society, Defiance; discussion, Charles Graefe, Sandusky. Address, D. R. Silver, president of the Ohio State Medical Association, Sidney.

Thursday Evening (short session), 7 to 9.—Address on medicine, "The American Heart Disease," D. N. Kinsman; address on surgery, "Surgery of the Kidney," Joseph Ransohoff.

Annual dinner at 9 p. m.

Friday Morning, 8:30.—"Recognition and Prevention of Tuberculosis," W. E. Hoover, Allen County Society, Lima; discussion, A. M. Crane, Marion. "Bone Tuberculosis," C. W. Moots, Academy of Medicine, Toledo; discussion, J. H. Huntley, Lima. "Modern Anesthesia" (with exhibition of apparatus), E. E. Brown, Williams County Society, Stryker; discussion, E. M. Ickes, Fremont. "Bronchoscopy and Esophagoscopy" (with demonstration), Thomas F. Hubbard, Academy of Medicine, Toledo; discussion, E. N. Porter, Tiffin. President's address (W. S. Phillips), "Palliative Treatment of Prostatic Hypertrophy," A. J. McCracken, Logan County Society, Bellefontaine; discussion, J. G. Keller, Toledo. "Abortions," M. A. Darbyshire, Hancock County So

ciety, McComb; discussion, D. W. Steiner, Lima. "Cerebro-Spinal Meningitis," William Storey, Erie County Society, Castalia; discussion, S. Gorsuch, Castalia. "Alcohol," J. A. Kimmel, Hancock County Society, Findlay.

In his address in surgery, Joseph Ransohoff, F. R. C. S. (England), of Cincinnati, said:

The surgery of the kidney is essentially the product of the past twenty-five years. The first pylorectomy for cancer of the stomach was done five years before Morris performed the first formal operation for stone in the kidney. Of Billroth's first triumph in the field of gastric surgery the inimitable Hyrtl in the text of his surgical anatomy states that "it is remarkable that this patient recovered." When the proof sheets were returned in galley form he could make no changes, but in a foot note he said, "She, too, has gone to her last home." The fate of the earlier cases of kidney surgery was far better. Progressively, our knowledge of the functions of the kidney together and separately has grown. Betterments in the modes of examination and the consequently greater accuracy in diagnosis, recognition of the early gross changes wrought by disease as seen by operation rather than by autopsy, and the comparative safety of incisions through healthy kidney tissue have brought to the fore the element of safe conservatism in the domain of renal surgery. Indiscriminate operations, and particularly removal of the kidney, have given way, in properly selected cases, to sparing measures, as amputations have been duly supplanted by the many less mutilating operations on the extremities.

The greatest advances which have been made in renal surgery have resulted from the very exact methods of examination, which are and always from the very nature of technical difficulties will be the province of thoroughly trained specialists. Cystoscopic examination, the segregation of the urines and ureteral catheterization can never become the property of the general practitioner or of the general surgeon, who sees little of kidney work. The taking of a valuable radiogram and its correct interpretation will likewise remain the domain of the specialists. But it must be borne in mind that fairly accurate diagnoses of surgical lesions of the kidney were made and successfully dealt with by surgery before these excellent adjuncts to our methods of diagnosis were known. Now, as formerly, it is fortunate that the general practitioner may still make a diagnosis which in all probabilities will be verified and only more clearly defined by the specialist who can control the most modern methods of determining the

functional capacity of the individual kidney. The older clinical methods—namely, inspection, palpation and the careful examination of the combined urines, together with a careful study of the clinical manifestations, such as pain, fever and renal crises—still play an important rôle in preparing the way for a more correct diagnosis. By bimanual palpation alone, with the patient in the dorsal, recumbent, the lateral or the reclining position, an enlargement of the kidney is easily made out. In patients in whom the muscular reflexes cannot otherwise be overcome, a general anesthesia with nitrous oxide is a most valuable aid. Palpation enlightens us as to the size, position and sensitiveness of the kidney. While the normal gland at times responds to pressure with a peculiar feeling akin to the testicular sense, palpation elicits pain when it harbors a stone, a pus focus and, to a less extent, a tumor. Pressure over the last ribs made with the thumbs of the examiner simultaneously is likely to be equal on the two sides, whereby the tenderness of one side will be made clear and indicate an underlying lesion.

Changes in the composition of the urine due to the presence of abnormal constituents can practically always be found in surgical affections of the kidney. This does not include albumin, sugar or casts, since interstitial changes often follow in the wake of primary surgical conditions. Nor will I more than allude to the various crystals, amorphous salts, epithelial and microscopic organisms that must be searched for in every urinalysis. Blood and pus are the constituents of urine oftenest found in surgical diseases of the kidney and ureter. To examine the urine again and again in chronic cases is of prime importance in helping us to locate a kidney lesion and determine its nature.

Take the symptom of hematuria as an example. To the initiated its profuseness itself speaks for a neoplasm or for the rare condition of essential hematuria. Occurring in children it is almost pathognomonic of a tumor of the kidney. Occurring after an access of pain, it speaks strongly for the bleeding from a dislocated kidney, with torsion of the ureter. In stone, the urine may appear normal to the naked eye, but I have seen no case in which a stone did not reveal itself by the presence of a few red cells in every specimen of urine examined. The value of the bacteriologic examination cannot be overstated. Since we know that tuberculosis of the genito-urinary tract begins primarily in the kidney or in the testicle and by continuity of the excretory ducts is conveyed to the bladder and prostate, an elimination

of the disease in testicle and prostate places the ability to recognize tuberculosis of the kidney within the reach of everyone, even without the more modern and accurate methods of examination. In this connection I might be permitted to say that except in emergency cases the X-ray and ureteral catheterization ought not to be used until a tentative diagnosis has been made by the clinical methods within the reach of everyone. We must not allow ourselves to deteriorate as thinking machines by reason of the ease with which a fair sized kidney stone discloses its presence, thanks to Roentgen. Personally I shall never again feel the thrill of triumph in the first touch of a kidney stone that I felt in my operations before the X-ray was discovered. Then the elation of the surgeon was a just reward of sound reasoning. Now the operation is simply a nice piece of technical work, the outcome of which as to the finding of a stone is practically certain. Eighteen years ago I made the diagnosis of kidney stone in a woman of thirty-nine and advised operation. After eighteen years of more or less suffering and after the kidney became sacculated and its fellow involved, I removed the stones just a little over two weeks ago at the Good Samaritan Hospital. With the X-ray plate before me the operation in point of suspense to the operator was something like fishing for trout with a dip net in an aquarium.

But even the most modern and scientific methods of examination occasionally lead to false conclusions. The X-ray, even when showing a positive shadow in the kidney or in the ureter, may be incorrectly interpreted. For example, patients passing small stones which are expelled almost as soon as they are formed are no subjects for operation. A few years ago a patient presented himself with a homeopathic vial filled with small stones which he had passed from time to time. Three separate X-ray plates showed four stones too large to be passed from the pelvis. The operation revealed about thirty small stones so closely packed together in the pelvis as to appear as four stones in the picture. A shadow in the renal pelvis or in the tract of the ureter can positively be looked upon as a stone in the urinary tract only when it is associated with the ordinary clinical evidence. Misinterpretations of shadows have been sufficiently common to warrant this dictum. Calcified lymph nodes, phleboliths or the thickened tip of an appendix or an appendiceal stone have been mistaken for renal or ureteral concretions. Buried sutures infiltrated with lime salts after previous laparotomies have been mistaken for ureteral stones. In a patient of neurotic temperament recently seen I saw the presentation of seven or eight small stones on one

side and two on the other in the track of the pelvic portion of the ureter after the removal of the appendages. By using radiography and the ureteral catheterization, with a metal mandarin, these mistakes may be avoided. Quite recently there has come under my observation a patient with ureteral stone. Two X-ray plates showed a small olive-shaped stone in the pelvic portion of the ureter. The date for the operation was fixed two weeks after the taking of the pictures. Without really knowing why, a third picture was taken on the evening before the operation. The shadow which it showed was now in the middle line, proving its descent into the bladder. The cystoscopic examination verified the radiogram. It was removed by crushing. The descent of the stone from the ureter was painless. Had the plate not been made just before the operation, the patient would have been subjected to a difficult operation, and, of course, a fruitless one. In all my operations for ureteral stone hereafter I shall have a radiogram made just before the anesthetic is administered.

In the separation of the urines and cryoscopy the acme of refinement in the diagnosis of surgical disease of the kidney has been reached. Whether segregation with a segregator or ureteral catheterization is to be employed depends largely upon the skill and experience of the individual specialist with the one or the other method. Unfortunately, in not a few cases neither method is feasible even in the hands of the best experts. In tight urethral strictures, in many cases of prostatic hypertrophy with great vascularity, it may be impossible to use the cystoscope at all. In other cases there is no assurance that an abnormal condition of the bladder will not prevent the ureteral orifices from being brought into view. When the separation of the urines is feasible, it gives us an unquestioned status of the functional capacity of the one kidney after its fellow has been removed. Reflex anuria may develop after nephrectomy when gross and microscopic examinations show the other kidney to be normal in every regard. Quite recently a case was reported in which ureteral catheterization and cryoscopy demonstrated a normal functioning kidney. The patient died from nephrectomy, and the autopsy revealed a normal gland. One such case throws a doubt upon the infallibility of the modern methods of functional diagnosis. It disproves the aphorism of Albarran that one operated on for the removal of a kidney ought not to die of renal insufficiency. Certain it is that the one kidney need never again be removed. Even, for example, in ruptures of the kidney, a short exploratory median incision through which the other kidney

can be located and palpated by bimanual touch will relieve the patient of the fatal mistake of having his one kidney removed and the surgeon of intense anxiety after the operation until urine is voided. Errors, of course, are possible, but it is a fair assumption that a kidney normal in size, consistency and place has a normal potential capacity.

There are some cases, of course, of surgical affections of the kidney which are symptomless. One of the largest stones in my collection I removed from a lad of eighteen who had never been in bed from illness for a day in his life except for a short time when he had been struck in the loin with a bat. A painful swelling appeared in the costo-iliac interval, approached the skin and ruptured. The patient came to see a physician on account of the inconvenience from the profuse discharge. The kidney discharged both ways. The urine was like milk, but the patient was not aware that it was abnormal. The Germans have an adage, "Where there is no plaintiff there can be no judge." Where there are no symptoms there can be no diagnosis.

Tumors of the kidney may for a long time follow a symptomless course.* A remarkable incident occurred to me in a smoking car. A fellow passenger with whom I had been in conversation went to the closet, where he remained for some time. On his return he looked ghastly. I informed him that I was a physician and asked whether I could be of service. He told me that for the first time and without known cause or pain he had voided a large quantity of nearly pure blood. I composed him as well as I could until our ways parted. Four months later I was asked to see this patient for a recurrence of the hematuria. He weighed 240 pounds and was of rather short build. We mapped out a tumor of the right kidney, which we believed to be sarcoma. The diagnosis was confirmed by the now regious professor of medicine at Oxford, who advised an operation. The exploratory incision, which was one of the longest I have ever had to make, revealed a sarcoma adherent to and involving the renal vein, with an ingrowth. The operation was not completed. When the patient recovered from the anesthetic, he said to me, "Doctor, how is it?" I said, "Fine." He said, "Is the tumor out?" With a straight face I answered, "It is." He grasped my hand and said, "Doctor, I am proud of you." Your humble servant never felt more sheepish in his life, but hopes that if there is to be a meeting between him and this patient in the hereafter the latter will express his gratitude for the nearly one year of hopeful life which he vouchsafed him by a so called white lie.

With these considerations of the ordinary and more difficult means to diagnosis in surgical affections of the kidney, I may be permitted briefly to speak of our modern views concerning some of the more usual ones. The commonest of them all is mobility of the kidney. In about 30 per cent. of women who come for an examination of the abdomen, particularly if they are of the spare kind, a movable right kidney can be felt. As a rule there are no symptoms. The old adage of the relation of ignorance to bliss never had a more apt application than to these cases of accidentally discovered movable kidney. Never tell a woman who has no symptoms directly referable to the kidney that hers is movable unless it should be an aim to produce symptoms and a cause for operation.. A rest cure, with hyperfeeding and proper orthopedic support will aid a great deal. Operation should be reserved for those cases only in which extreme mobility is associated with positive symptoms depending on a twist of the ureter or from pressure or traction on the duodenum, with distinct gastric crises. While a displacement of the kidney usually rights itself promptly and the violent symptoms quickly subside, their recurrence is an indication for kidney fixation. In other cases the operation ought not be done. The most experienced, and I may be permitted to say the most honest operators, are doing fewer and fewer kidney fixations. Except where mechanical obstruction to the ureter or its vessels or traction on the upper segments of the gastro-intestinal canal are in evidence, a let alone policy should be followed so far as operation is concerned unless the patient in particular and surgery in general suffer harm. Tuffier operated on sixty-four wandering kidneys between 1888 and 1894. In the following three years he operated on only eight. The slight mortality of the operation, less than 2 per cent., should not justify extending its application beyond positive indications. In over 70 per cent. of the cases operated upon a cure has been effected, but it is more difficult perhaps here than in most other conditions to determine what is a positive cure. If the renal crises and the gastric symptoms directly referable to kidney displacement are permanently relieved by operation, a cure can be claimed. If, however, the nervous symptoms were predominant and these fail to disappear after operation, a cure should not be considered as having been effected, even though the anchoring of the kidney has been achieved.

While I have seen in some cases nervous symptoms disappear after operative treatment, as well as by rest cure and hyperfeeding, surgical, like

medical measures, in these instances have probably only been of suggestive value. The fear that the stripping of the kidney capsule in an operation may be followed by deep interstitial changes has not been substantiated. Nor is there any danger to the functional activity of the kidney by reason of transfixing it by one or two sutures and slinging it over the last rib. There are so many ways of fixing the kidney that every operator pursues a method more or less his own. It is largely a matter of habit. The immediate results are all good, and the end results vary in the hands of every operator, no matter what his method, according to the symptoms present before the operation and the necessity for it.

Stone in the kidney without question has given the greatest triumph to kidney surgery. While the experience of Henry Morris, who originated the operation, has never been equaled, every surgeon who has been especially interested in this work will see a large number of cases annually. It may be said of this particular field that we cannot look for further improvements in technique or in post-operative results unless cases are brought to the surgeon before destructive changes have been produced in the kidney. An early diagnosis is here an essential factor to successful operation. In point of diagnosis it should always be borne in mind that renal colic is a very inconsistent symptom. In a very large number of cases there is no renal colic from beginning to end. The colic is supposed to depend upon the passage of a stone through the ureter or on its impaction in the pelvic outlet. The passage of a smooth ureteral catheter causes no pain, and doubtless many small stones pass through the ureter into the bladder and there enlarge without causing any ureteral obstruction. As in the case of the gall stone, ureteral colic depends not so much upon the actual irritation produced by the stone as upon the increase of intracapsular renal tension.

Many a stone is firmly fixed in the kidney—does not change its position at all; perhaps only its nose, if I may so speak, projects into the pelvis. Such a stone produces no renal colic. Yet in these cases processes constantly going on in the kidney give rise to the symptom complex of chronic nephrolithiasis, which cannot easily be mistaken.

Aside from infection of the renal pelvis, which is certain sooner or later to occur, causing a positive pyuria, degenerative changes in the parenchyma, with casts and albuminuria, are nearly certain to follow in time. In two specimens, one obtained by autopsy, the other by operation, the

stone had caused a fatty degeneration of the kidney, which resulted in complete lipomatosis. Within the capsules of these specimens there was nothing but a fat mass surrounding a central suppurating cavity, the last vestige of a renal pelvis.

Although stone in the kidney causes less suffering as a rule than stone in the bladder, it is fraught with infinitely greater danger to life. The time to operate is when the diagnosis of stone is made and the radiogram shows a stone which cannot be expelled. Once in my experience I have seen fragments of stone passed per urethram. It had disintegrated in the kidney. Once I have seen malignant disease follow the long carrying of a stone in the kidney. I believe it to be the only case on record. Once I have seen, and that within the last year, a tuberculosis complicate a primary stone. A clean nephrolithotomy in a kidney that requires no drainage is one of the safest of the major operations. The presence of a pus sac, necessitating drainage, reduces the chances of recovery materially and may make a secondary nephrectomy necessary. If one waits until calculus anuria compels the surgeon to interfere, the mortality jumps to between 30 and 60 per cent., according to the length of time during which the anuria has persisted.

TUBERCULOSIS.

Until Steinthal, in 1885, showed by autopsy records that in one-half of twenty-four cases of tuberculosis of the urinary tract the process began in the kidney, renal tuberculosis was considered a sequel to disease of the testicle, the vas, the prostate or the bladder. We now know that a distinction must be made between genital and urinary tuberculosis. The latter always begins in the kidney and involves the bladder secondarily. It is strange that the separation of genital and urinary tuberculosis was so long in being made, since tuberculosis of the kidneys was operated upon so much oftener in females than in males. Of seventeen of my own cases nine occurred in women. In both genital and urinary tuberculosis the disease is carried by the stream of excretion or secretion. It is possible that through the periureteral lymphatics the disease may spread from the bladder upwards, but this cannot occur often. In specimens secured by operation tuberculosis of the kidney usually appears in the caseating form. In old standing cases, where a secondary pus infection has taken place, the kidney has the appearance of an ordinary pus kidney, from which it can only be distinguished by microscopic study. I have one specimen in which the kidney is greatly reduced

in size and presents between the nodules firm bands of fibrous tissue, a condition similar to the fibroid phthisis of the lungs. Early operations relatively often show the process limited to one pole, wherefore partial resections have been advised. In a specimen recently removed by me the upper pole alone seemed involved. An examination after operation showed the lower pole to contain three nodules, potential of later trouble if a resection had been done.

How long tuberculosis may remain latent in the kidney cannot be determined. Until a caseating focus breaks into the pelvis or tension in the capsule gives rise to pain there may be nothing to indicate its presence. It must not be forgotten that the earlier symptoms are as a rule referred to the bladder. Hematuria chiefly nocturnal, vesical tenesmus and polyuria, in the order named, are generally the early clinical signs. Until the vesical floor has been seriously affected micturition is not painful. Every cystitis that is not gonorrheal, the result of instrumentation, trauma or stone, must be looked upon with suspicion of tuberculosis of the kidney, especially in the young. An early diagnosis is of more importance here than in stone. To be complete, a most careful analysis of the separated urines must be made, and this is only possible when the bladder will permit the necessary manipulations with segregator or ureteral catheterization.

When both kidneys are known to be involved, surgical interference is as a rule out of the question, and the general treatment of tuberculosis, with changes of climate, may be followed by improvement. In strictly unilateral cases it is not wise to protract this treatment. The earlier operations, nephrotomy and drainage, effected few cures. The post-operative mortality was exceedingly large, and about 60 per cent. of those operated upon died within the first year. Therefore lumbar nephrectomy is now recognized as the routine operation for primary tuberculosis of the kidney.

Whenever possible, the ureter, if involved, is to be removed as far as possible. Involvement of the bladder is no contra-indication, for it is within the experience of everyone that the bladder symptoms speedily disappear after the removal of the primary focus. The post-operative mortality has been reduced to a remarkable extent, and permanent cures are far from being unusual. The removal of the kidney, for some unexplained reason, I have often found followed by obesity. A number of my cases are living after eight and ten years and in good health, and one survives in perfect health twelve years after a tubercular kidney was removed.

ESSENTIAL HEMATURIA AND BRIGHT'S DISEASE.

There is still one condition of the kidney which in its nature is little understood. It has been described as essential hematuria, hematuric nephralgia and angio neurosis of the kidney. They are cases in which the symptom complex of the grosser lesions, such as stone, tuberculosis, neoplasms and obstructions of the ureter, are not well marked; pain and hematuria alone are present. In 1894 I collected forty-four cases in which the symptoms pointed to stone and the operation proved negative. With the perfection of radiography, negative results, so far as finding a stone, have been very much less often encountered. Since Naunyn pointed out that profuse hematuria may occur in Bright's disease, even without the ordinary manifestations thereof in the urine, a new light has been thrown on these obscure cases. That there is an unilateral atypical chronic nephritis giving rise to symptoms chiefly simulating stone characterized by severe hematuria is established by many cases which have been relieved by capsule splitting or nephrotomy. I operated on one of these in which the pain had lasted for fourteen years. No stone was suspected, since a number of X-ray plates were negative. The examination of a portion of the kidney removed by operation showed that, although the glomeruli generally retained their normal appearance in certain areas, distinct atrophy with granular changes had occurred. There was no overgrowth of the connective tissue. The operation was performed eight years ago, and the patient has continued well. In this patient there was doubtless some pyelitis, but this likewise yielded to the operation.

In regard to the chronic affections of the kidney, some of the conclusions of the leader in kidney surgery, Israel, are noteworthy: First, there is such a condition as unilateral nephritis; second, nephritis may produce kidney colics closely simulating those of stone; third, unilateral colic may be present when the disease is bilateral; fourth, chronic nephritis may exist without albuminuria or casts in the urine, and albumin may be absent in the presence of casts of various kinds; fifth, profuse hematuria with or without colic may occur in chronic nephritis.

That unilateral hematogenous infections of the kidney may occur has been firmly established within the last few years. Acute suppuration of the kidney in the form of multiple abscesses distributed throughout the kidney have been found in a number of cases. Brewer has called particular attention to the importance of early interference in these cases which run, if untreated, a rapidly fatal course. And he has shown that

nephrectomy offers better results than the mere splitting of the gland.

The surgical treatment of Bright's disease leaves much to be wished for. The enthusiasm which followed the earlier reports of success from decapsulation of the kidney quickly dwindled. The operation, as is well known, found its chief advocate in Edebohls, who a few years ago had operated on seventy-two cases, of whom it was claimed that seventeen were cured. Nothing like these results have been achieved by other operators. While my own experience has been limited, it has not filled me with pride. Not one of my three cases was improved. I think it may safely be said that in chronic Bright's disease, if operation is at all indicated, it should be limited to cases in which pain is a marked symptom or in which profuse hematuria or anuria threatens life. And in these the operation should be limited to capsule splitting.

The amenities of this occasion, fortunately for you and me, fix a limit to an address. This I have perhaps already overstepped. Some of the most perplexing of the questions, notably of ureteral surgery, I could not touch upon. Many of them have been helped to a solution by American surgeons. The pioneer among them was honest Christian Fenger. The personal equation amounts to so much in an author. If Christian Fenger had reported seventy-nine cases of cerebellar tumor operated upon with seventy-eight recoveries, he would have been believed by everyone who knew him.

The Ottawa County Medical Society met at Oak Harbor December 9. A. B. Jordan, of Marble Head, read a paper on "Fractures." Following this the election of officers took place and resulted as follows: President, E. B. Huyck, Oak Harbor; vice-president, H. J. Pool, Port Clinton; secretary and treasurer, S. T. Dromgold, Elmore.

The Surgical Section of the Academy of Medicine of Toledo and Lucas County met November 27. The general subject was traumatic surgery. E. W. Doherty read a paper on "Drainage." He said in part:

The greater part of the absorption of the body is accomplished by the lymphatic system. All exudate or waste material must be absorbed before it can be excreted or must remain as a local collection. When not absorbed or held locally, it must be delivered externally by drainage.

Aseptic operations in regions well supplied by lymphatics where the lymph circulation is but

little disturbed will not require drainage. In the same class of operations where the lymph system is removed drainage is absolutely necessary to prevent accumulations of serum, as auto-drainage is temporarily abolished.

Operations for septic conditions in regions rich in lymphatics must be followed by some cauterizing agent to prevent extension of the septic process.

The lymphatic system of the abdomen is most active in the upper portion. The lymph vessels over the small intestine are numerous, while the converse holds true of the large intestine and pelvic peritoneum. In aseptic operations upon the abdomen involving extensive injury to the peritoneum the foot of the bed should be raised in order to aid auto-drainage. In septic conditions the opposite holds true. By elevating the patient and head of the bed the septic condition is confined to the pelvis, where there is little absorption and the accumulated septic products may be delivered externally by drainage.

The question of the propriety of the abdominal drain is still an open question. In our desire to avoid post-operative hernia and make as small a scar as possible, we may jeopardize the life of the patient by failure to insert the abdominal drain.

We will concede that it is physically and physiologically impossible to drain the general peritoneal cavity for a longer period than twelve hours, but the aid given the peritoneum by the abdominal drain during the first six or eight hours before encapsulation of the drain will in many cases turn the tide in favor of the patient.

James T. Lawless read a paper on "Irrigation."

J. M. Frick read a paper on "Suture Material." He said the question of sutures had caused almost endless discussion, and the end was not yet. Speaking of catgut, he said that the great number of sterilization methods was proof that none were entirely satisfactory. The objections to catgut are that it furnishes excellent culture media for organisms, which may, despite every precaution in the course of the operation, gain entrance to the wound, and when the catgut becomes absorbed the organisms contained therein are liberated and give rise to infections of adjacent tissues; secondly, because a strand two or three times as large in diameter must be used to get the same tensile strength as silk; thirdly, that it swells after becoming moist, making the threading of needles difficult; fourthly, that it is slippery and more difficult to handle than silk; fifthly, that the methods of sterilization are more complicated and costly than silk.

The great advantage of catgut is that it lasts

long enough for purposes of healing and that it is then absorbed by the tissues when in position.

Other suture materials are kangaroo tendons, introduced by Marey. It is stronger than catgut and not so quickly absorbed and therefore better adapted to operations in which it is desired to afford the parts proper support until repair has taken place.

The value of silk is its strength and durability. Its resistance to absorption is the greatest objection to it. It is apt to set up irritation and may lead to the formation of sinuses. Being very porous, it may easily carry germs, and for this reason is contra-indicated as a buried suture. Dr. Frick described in detail the different kinds of silk and the indications for each kind.

Silkworm gut is one of the best plastic sutures. It contains no meshes, thus giving it a great advantage over silk. It is very rarely or never used as a buried suture. It remains in the wound until removed, as it is not absorbed.

Silver wire has its chief use in permanently holding together fascia, such as in the radical cure of hernia. The wire is best introduced as a mattress suture, the ends twisted four times at an obtuse angle, cut off and burned down at one side of the incision. The sutures remain indefinitely and rarely have to be taken out. It has been used for a number of years as a removable subcutaneous suture and also in ununited fractures.

In whatever receptacles the various sutures are kept, they should, if possible, never be handled after sterilization. There is no surer way of infecting ligatures than by drawing them through the naked fingers. All sutures should be handled with dressing forceps. The threading of needles before sterilization removes a frequent source of infection.

Burt G. Chollett read a paper on "The Closure of Incisions." He said:

The laity as well as the medical man often rate the ability of the surgeon by the sightliness of the scar left after operation. A neat closure, with little scar, distinguishes the novice or the occasional operator from the master. The closure is, as it were, the putting on of the finishing touches; hence the necessity of leaving the smallest possible amount of cicatricial tissue.

"Centipede scars" from through and through interrupted silkworm gut sutures should be a thing of the past. The amount of scar tissue does not always remain constant. In some patients it becomes less a few months after operation, while in others it increases in amount.

The susceptibility of some patients to keloid

formation in scars is a well known clinical observation, and in this class of people it matters not the method of skin closure used whether a subcuticular or other stitch has been employed. Broadening of the scars will take place. Finney states that more keloid scars result from a subcuticular catgut stitch than from any other method. The prompt and perfect healing of wounds depends upon:

1. A retentive coaptation of the surfaces of the wound.

2. Perfect drainage or the absence of its necessity.

3. Asepsis.

4. The application of a suitable protective dressing, supplemented by rest and the proper placing of the wounded part.

The most important individual factor is, of course, asepsis. The retentive coaptation of the surfaces of a wound is necessary; both the superficial and the deep structures are of importance in this respect. Of the two it is more important for the safety and prompt recovery of the patient that the deep tissues be properly opposed, since if this be not done a cavity remains, in which blood or pus may collect.

It happens not infrequently that the superficial structure unites promptly and well, while the deep ones fail and from lack of coaptation of the surfaces form "dead spaces," which lead to abscess or sinus formations, and thus to a tedious and protracted recovery.

The closure of incisions in different parts of the body differ, but the results desired in all are:

1. Rapid healing, which shortens convalescence. This is possible only by perfect asepsis.

2. Smallest scar possible, which depends upon size of the incision, perfect coaptation and method of skin closure. Marking the skin is a great aid.

3. (a) The avoidance of hernia, especially in abdominal incision, which is accomplished by using one of the standard incisions, which avoids nerves and other important structures. (b) Perfect coaptation of deeper structures, leaving no dead spaces.

The wounds should be wiped dry, care being taken to remove all tissue shreds and blood clots, all oozing stopped and all bleeding points ligated.

Every time a ligature is applied to a vessel or a suture is used, a certain amount of strangulation of tissue necessarily ensues. The inevitable result is a greater or less local necrosis, that affords a good culture nidus for the growth of any germs that may be present or may gain access. Any unnecessary handling or mauling of tissues,

whether it be rough handling, excessive tension on ligatures or sutures or by using large sized catgut, should be avoided.

Sutures in common use are iodine catgut, silkworm gut, silver wire, horsehair and Michel soft metal skin clamps. Methods by which they are applied are either continuous or interrupted, while occasionally mattress sutures are used to overlap fascia or to relieve tension.

Continuous sutures of iodine catgut are used to close fascia, peritoneum, periosteum, muscle, fat or dead spaces. Generally a separate suture for each layer. A continuous buttonhole stitch is sometimes used to control oozing in muscular tissue. Continuous sutures in the skin may be made with fine silkworm gut, silver wire, horsehair or linen, these materials possessing no capilarity. Rarely is silk or catgut used in the skin.

Subcuticular sutures leave less scar in most people than interrupted, but the point the needle enters should be directly opposite the point it left on the opposite side, thus avoiding puckering. The bite should be rather underneath than at the edge of the skin, bringing the superficial fascia together.

Interrupted sutures of any material, but usually silkworm gut, are used for skin closure. Care should be taken lest they be tied too tight, thus causing strangulation of the tissue; that the knots be at the side rather than directly over the cut surfaces; that they be placed an equal distance apart; that the amount of tissue held on either side be equal and the suture be at right angles to the incision, that there be no puckering.

In wounds in which there is tension the skin suture is usually reinforced by interrupted sutures of silkworm gut, tied over gauze. This gauze prevents cutting of the skin by the silkworm gut. Adhesive strips placed over a pad of gauze help relieve the tension on the sutures, especially in abdominal wounds during post-operative vomiting.

As the ideal skin suture has not been discovered as yet, you will find a great variety of materials and methods, good results being obtained by different operators with different methods.

As the object of all skin closures is to leave a small scar, it would seem that by closing the skin by strips of adhesive instead of sutures you would succeed. But this is not so, as even this method also leaves a scar.

Probably the best skin suture which leaves the least scar is the Michel soft metal skin clamp. It has been pointed out that if the superficial fascia is brought together there will be less scar formation. This corresponds to our observation. Skin

will stretch, while the superficial fascia, composed mostly of fibrous tissue, will not. In thin people no superficial fascia sutures is needed, but in fat people it is best to use one.

The method of their application is as follows: After all the deep structures have been united, the skin is thoroughly dried and held in a position by towel tenaculum clamps and tissue forceps. While the clamps are being applied the skin is elevated by the towel clamps in the form of a letter A and the clamps closed over the top. These clamps are particularly adapted to face, head and neck operations, as they can be removed at the end of forty-eight hours. After the stay sutures have been placed in wounds where there is tension, skin clamps can be applied to close the skin—e. g., amputations of breast, arm, leg or abdominal, etc. The speed with which the clamps can be applied, the ease with which they can be removed, and the cost, which is nominal, make them a very desirable suture.

In closing I wish to add the method of closing abdominal incision as practiced at St. Vincent's and Infirmary Hospitals in my service with Dr. Jacobson. The method is a combination of the old through and through interrupted silkworm gut sutures and the Etage method and meets all of the requirements—namely, rapid healing, the avoidance of hernia and the smallest possible scar.

1. Suture of the peritoneum and transversalis fascia with continuous iodine catgut No. 3, the peritoneum being pulled up into the incision so as to leave no raw surfaces in the peritoneal cavity.

2. Three interrupted silkworm gut sutures are passed through all structures except peritoneum.

3. The fascia of the exterior oblique is brought accurately together with continuous iodine catgut and overlapped after the method of Noble. Sometimes a stitch or two is passed into the rectus muscle but as a rule not. Great stress is laid on this fascial suture, as it is the most important individual factor in preventing hernia.

4. Superficial fascia stitch, if thought advisable to avoid scar.

5. Application of Michel skin clamps.

6. Tying silkworm gut over roll of gauze.

7. Three broad strips of adhesive plaster and a scultitus abdominal bandage.

Stanley Eichberg read a paper on "Dressings."

The Pathological Section of the Academy of Medicine of Toledo and Lucas County held their regular meeting December 11. W. J. Stone read a paper on "The Early Diagnosis of Syphilis and the Technique of Examination for the Spirocheta

Pallida" (with demonstration). Dr. Stone reviewed the work of Schandim and his discovery of the spirocheta pallida in 1905 and also the experimental work of Metchnikoff in the inoculation of the higher animals.

It must be conceded that the spirocheta is the actual cause of syphilis, although it has not fulfilled the four rules of Koch. The organism has been found innumerable times (never in non-syphilitic lesions) in every stage of syphilis, and the organism has been successfully inoculated into monkeys and lesions so produced.

The early diagnosis is much more accurate if the dark ground illuminator is used. This method, first described by J. B. Read in 1837, was discovered by Reichert, of Vienna, in 1907. The method depends on the same principle of illumination which causes dust particles to become visible when passing through a beam of sunlight. The apparatus is a metallic plate with a central hole, above which is a piece of glass having on its under surface a circular excavation. Different sized diaphragms are used to cover the central part of the excavated area, so that when light is reflected up from the plane mirror of the microscope only the marginal rays reach the glass plate. These rays are reflected to a central point, and at this point any solid body will intercept these rays and appear as luminous objects on a dark ground.

The Reichert instrument can be used on any microscope and is used as follows: A strong light is necessary, such as the sun, are light, Nernst lamp or inverted Welsbach light. The Abbe condenser is removed. The light is focused on the central point. Perfectly clean and smooth slides and covers must be employed. The material to be examined can be obtained from chancres, mucous patches, condylomata, glands, etc. A small drop of serum, preferably without blood admixture, is placed on the cover and inverted on the slide. The spirochetes are seen actively motile, varying in size from $7/21$ microns, consisting of a slender thread, closely wound, like a corkscrew, with sharp ends.

Stone says that in a great many examinations he has never found the spirochetes in a non-syphilitic lesion nor in a normal mouth.

C. E. Price demonstrated specimens of (a) hydronephrosis, (b) carcinomatous kidney and (c) sarcomatous kidney.

J. Todd Duncan gave the autopsy findings in a case of perforated gastric ulcer, followed by empyema. A paper entitled "Our Legacy—A Pathology," by C. W. Dahlenbrug, was read.

The Medical Section of the Academy of Medicine of Toledo and Lucas County met November

20. David E. Bowman reported a case of aortic aneurism and demonstrated the specimen.

Charles G. Sonders read a paper entitled "Malnutrition in Infancy." He said in part that malnutrition was characterized by poor physical development, underweight, flabby musculature, anemia, feeble digestive powers and increased susceptibility to infections. It closely resembles that seen in adults with chronic diseases. The principal factor in bringing about the condition is the inability of the body to repair tissue waste and to supply new tissue. It may be inherited. It sometimes follows acute diseases of the digestive tract and the lungs. The most important cause is improper feeding, and it is true of the breast fed as well as artificially fed infants.

A very large proportion of the cases of illness in infancy are preventable because they are due to improper care. About one-fourth of all deaths occur during the first year and about one-third during the first two years. Disturbances of the digestive tract constitute the largest single cause of death in this period. It is safe to conclude that most of these disturbances are due to improper feeding. Few children are abnormal at birth, and if fed correctly would pass through infancy without nutritional disorders. It is difficult to institute satisfactory feeding because the digestive tract has been greatly disturbed by improper food. The child has not been started right. More time should be devoted to the instruction of mothers.

Underweight is a prominent symptom of malnutrition. Dentition is apt to be disturbed in these cases. These troubles may occur in connection with syphilis, tuberculosis, rickets and other organic diseases. The diagnosis of malnutrition is to be made by a thorough physical examination, just as we exclude all organic diseases in neurasthenia.

The treatment depends on the etiology. If the cause is removable, the prognosis is good. The diet is very important and should be arranged according to the child's anatomical development rather than his age. The modification of milk finds a place here, and each physician has his favorite methods. It is only very rarely that cow's milk cannot be modified to suit the most delicate digestive apparatus. Cow's milk is the best substitute for breast milk.

Fresh air, cold baths, hygienic surroundings, are all very essential in treating these cases.

Wm. G. Dice read a paper on "Typhoid Fever in Infancy." Dr. Dice said that until five years ago typhoid fever in infancy was considered rare. Even men doing a great deal of work among children stated that they had seen only two or

three cases. In the past two years he has had four cases under two years of age and has seen at least seven between two and seven years. The youngest case on record was a child of twenty-five days. The disease lasted twelve days.

Water and milk are naturally the conveyers of infection. The water used for washing milk cans and bottles is usually responsible. In several cases the cause was the sucking of the washcloth during the bath in infiltrated river water. It is probable that many causes go unrecognized, and this fact may explain also occasional small epidemics.

The onset of the disease is acute more often than gradual. This is true in proportion to the infancy of the child. Fever, vomiting, prostration, loss of appetite, diarrhea, usually initiate the disease. Nosebleed is rare in infancy. The trouble may at first be diagnosed as acute indigestion. The temperature is high in the first week, ranging up to 103 or 105, and dropping usually in twelve to twenty-one days—that is, earlier than in adult cases. The tongue is coated, usually moist, not becoming ordinarily dry and fissured as in older cases. Tympanitis is seldom marked; likewise pain and tenderness is not common. Splenic enlargement is usually made out by the end of the first week. Rose spots are usually not profuse and are present in 60 or 70 per cent. of the cases. Nervous symptoms may predominate, with initial convulsions, delirium, apathy and tossing of the head. The diazo reaction is obtained in the second week, and the blood shows a leucopenia.

Complications may ensue, just as in adults—bronchitis, pneumonia, hemorrhage, perforation, aphasia, otitis, meningitis, chorea, furunculosis, abscesses, etc.

The prognosis in childhood is good, but there are no reliable statistics. The prognosis is not so good in the first year of life as the second, probably due to lessened resistance.

Treatment should consist of the ordinary hygienic measures. There should be an ordinary cleansing sponge bath twice daily. The cool pack is the most efficient antipyretic, as it does not frighten the child.

Diet should consist of cereal gruels, albumen water, broths. These gruels are made by boiling an ounce of the cereal in a pint of water for three hours; then straining, salting and given plain or sweetened, as desired. If the bowels become distended, the gruels may be dextrinized. Diarrhea can be checked by cutting down the diet and a dose of bismuth and Dover's powder. Dr. Dice emphasized the necessity for careful study of pro-

tracted fevers in infancy and early childhood and in case of doubt to resort to the Widal test.

Geo. L. Chapman read a paper on "Pyloric Stenosis in Infancy." Dr. Chapman first gave a short historical review of this disease, followed by a description of the main symptoms. There are three hypothesis as to the condition:

1. Presence of a tumor, but this has not been found in newborn infants.

2. Pyloric spasm of an intermittent nature. There are periods in the course of the disease during which bile is found in the vomited material.

3. Secondary hypertrophy, involving the pyloric ring and not the antrum of the pylorus.

The diagnosis is made from the vomiting, obstinate constipation, visible peristalsis of the stomach, the presence of a pyloric tumor and the chemical examination of stomach contents.

The treatment consists in the regulation of a proper diet. Gastric lavage is indicated. Dr. Chapman said medicine or surgery had no place in the treatment.

The Academy of Medicine of Toledo and Lucas County met in general session December 4. C. N. Smith gave the president's annual address, entitled, "The Surgical Conception of Pancreatitis."

He said that until recent years the surgery of the pancreas consisted in the infrequent incision and drainage of pancreatic cysts and drainage of effusions into the lesser peritoneal sac.

The anatomy of the pancreas and its ducts was first given in detail, with special reference to the relation between the pancreatic and the biliary ducts, because cholelithiasis is very frequently the essential etiological factor in pancreatitis. Swelling of the head of the gland from inflammation is certain to impede or obstruct the outflow of the bile. There are various modes of termination of the common bile duct and the pancreatic duct in the duodenum. The usual mode is for the common duct to lie above and the pancreatic below, both uniting to form the ampulla of Vater. The second method is for the two ducts to unite before reaching the duodenum, no ampulla being present. In the third type the two ducts open side by side into a fossa in the wall of the duodenum, while in the fourth the independent orifices of the ducts open at the summit of an elevation. The importance of this mode of termination is seen from the frequent association of cholelithiasis.

The pancreas may become involved from malignant disease of the duodenum, but primary

cancer of the duodenum is very rare. The close association of the pancreas to the pylorus makes frequent the secondary involvement of the pancreas in cancer of the pylorus. Adhesions between stomach and pancreas, following disease of either organ, materially complicates operative procedures and adds to the operative mortality. In operative procedures on the stomach the greatest regards may be had for the preservation of the integrity of the pancreas, as any injury to the pancreas decreases the chances for recovery.

The peritoneal reflections over the pancreas has given rise to much confusion regarding differentiation between pancreatic cysts and effusions into the lesser peritoneal sac—so called pseudo cysts. The diagnosis between these two conditions may be difficult or impossible owing to this fact, to mistaken ideas in pathology and to faulty deduction from hasty investigations upon the operating table. Many cases of effusion into the lesser peritoneal sac are reported in the literature as true cysts of the pancreas.

Dr. Smith described in detail the histology of the pancreas, including a description of the islands of Langerhans. It is a dual gland, having a distinct external and internal secretion. Recent writers have opposed some of the older teachings in regard to the islands of Langerhans and it is supposed they give an internal secretion.

The study of the pathology of the pancreas is beset with many difficulties, among them the rapid post-mortem changes which take place in a few hours. The greater part of our pathology has been obtained from surgeons operating on the pancreas and gall bladder. The one great fact that stands out in our pathologic confusion is that nearly all diseased conditions, whether fatty degeneration, pancreatic diabetes, retention cysts, effusions into the lesser peritoneal sac, pancreatic calculi, intra and extra-pancreatic hemorrhage, are dependent in a majority of cases on a preceding pancreatitis and that this latter is frequently associated with biliary concretions and infections.

The pancreas is also very susceptible to hemorrhage, either spontaneous or traumatic. Pancreatitis can be provoked experimentally by chemical, mechanical or bacterial agencies. Pure bile will almost invariably cause a pancreatitis, as shown by Opie, Flexner and others. Experimental obstruction of the pancreatic duct has also produced pancreatitis in animals.

Speaking of the frequency of the association of gall bladder stones and pancreatitis, Dr. Smith quoted statistics from Robson, Mayo, Deaver and others. The interstitial changes occurring in

chronic pancreatitis present two types—the interlobular and interacinar. In the interlobular form the fibrosis extends between the lobules and does not affect the intra-lobular structure. It is not until late that the morbid process involves the islands of Langerhans and diabetes supervenes. The interacinar type is marked by the formation of a network of fibrous tissue within the lobule. The resultant diabetes is early in this type.

Many cases of pancreatitis have been mistaken for cancer because the former produces enlargement, lobulation and hardening of the gland. The relationship between pancreatitis and pancreatic calculi is close. It would seem that the pancreatitis is more reasonably the cause of the calculi than vice versa. The opportunities for obstruction of the pancreatic duct by gall stones is great owing to the fact that in 62.5 per cent. of all individuals the common bile duct runs through the head of the pancreas.

The etiology and pathology of retention cysts are still uncertain. It is probable that intermittent obstruction is more often a cause of cysts rather than continuous obstruction, as was shown by Sum in the kidneys.

The diagnosis of pancreatitis is not difficult, as all methods now available are utilized. The digestive disturbances are indefinite, the feces are pale, soft and bulky, with occasional diarrhea. Azotorrhea is a valuable sign, but not so valuable as steatorrhea. The differentiation between cancer and pancreatitis can usually be made from the feces. In cancer the feces are usually free from stercobilin, while in pancreatitis it is usually present. The Cammidge urinary reaction is strongly, if not confirmatory, of the diagnosis of pancreatitis. Jaundice occurs from the blocking of the biliary ducts and is more continuous than intermittent. Pain may be pronounced or absent.

Dr. Smith in concluding said that pancreatitis is far more frequent than hitherto believed; that it can nearly always be diagnosed; that it is progressive and nearly always fatal; that in the majority of cases it is secondary to biliary disease; that it can be cured by removing the cause; that removal of the cause is at once imperative upon making the diagnosis; that medical treatment must give way to surgery.

FIFTH DISTRICT

FREDERICK W. HITCHINGS, M. D., Collaborator.

The fifty-fifth regular meeting of the Lake County Medical Society was held on December 7 at the Parmly Hotel, Painesville. The program was as follows: Presentation of cases; election of officers for 1909; miscellaneous business. C. C. Stuart, of Cleveland, presented a paper entitled

"Some of the Problems of Ophthalmology," followed by a general discussion.

At the annual meeting of the Huron County Medical Society, held in Norwalk on December 10, the following officers were elected: President, D. W. Rumbaugh, Chicago Junction; first vice-president, M. L. Hindley, Monroeville; second vice-president, R. L. Morse, Norwalk; secretary and treasurer, W. E. Gill; censor, E. B. Woodard, Chicago Junction; delegate, F. E. Weeks, Clarks-ville; alternate, H. R. Dewey, Bellevue. In addition to the regular officers elected, there was added a standing committee on county tuberculosis hospitals, and the chair appointed R. L. Morse, S. E. Simmons and W. E. Gill, all of Norwalk. A committee consisting of S. E. Simmons and F. M. Kent was also appointed to urge the Senators and Representatives to support the bill providing for a national department of public health.

At the annual meeting of the Ashtabula County Medical Society, held in Ashtabula December 1, the following program was presented: "A Brief Review of the Present Treatment of Pathological Conditions of the Nose," Wm. B. Chamberlin, Cleveland; "Medical Legislation," Clyde E. Ford, Cleveland.

The officers elected were as follows: President, O. A. Dickson, Jefferson; vice-president, Lee C. Stiles, Austinburg; secretary, F. D. Snyder, Ashtabula; treasurer, A. W. Hopkins, Ashtabula; censor, D. G. Palmer, Geneva.

The annual meeting of the Geauga County Medical Society was held Thursday, December 3, at Burton. The program consisted of an address by Carlyle Pope, of Cleveland, on the subject, "The Diagnosis of Scarlet Fever and the Problem of Immunity." The first part of the subject was practicable. "Diphtheria, Vincent's Angina and Differential Diagnosis," J. A. Davis, Chardon.

At the annual meeting of the Academy of Medicine of Cleveland the following officers were elected for the year 1909: President, W. E. Lower; vice-president, H. B. Ormsby; secretary, C. E. Ford; treasurer, W. S. Hobson; trustees, W. B. Laffer and J. M. Ingersoll.

The Erie County Medical Society, at its annual meeting, held December 24, elected the following officers for the year 1909: President, J. T. Haynes; vice-president, H. C. Schoepfle; secretary and treasurer, C. C. Davis; censor, C. B. Bliss; delegate, A. F. Cook.

At the annual meeting of the Lorain County Medical Society the following program was presented: "Myocardial Insufficiency," A. B. Smith; "Diphtheria," W. L. Dager. The officers elected for the ensuing year were: Chas. H. Cushing, president; W. A. Pitzel, vice-president; E. Cameron, treasurer; Geo. Gill, secretary; V. S. Burley, auxiliary committeeman and delegate to the State Association. E. V. Hugg presented a resolution commending the organization in Lorain and Elyria of the Health League and pledging the society's support in their efforts for the betterment of the public health.

SIXTH DISTRICT

E. P. MORRONE, M. D., Collaborator.

The Mahoning County Medical Society held a meeting in Youngstown on November 24 which was the most successful meeting of the kind ever held. In the afternoon Joseph Price, of Philadelphia, held a clinic at the Youngstown City Hospital. There were seventy doctors at the clinic from Mahoning county and towns about.

Dr. Price first operated upon a case of neglected salpingitis, and following this a case of utero-vesical fistula. During the operations Dr. Price explained the salient points in diagnosis and treatment.

In the evening a banquet was held at the Tod House; Youngstown, with 144 men present.

Dr. Price spoke before the dinner on "The Early and Precise Diagnosis of Intra-abdominal Tumors if we Wish to Obtain a Small or Nil Mortality."

J. J. Thomas, of Youngstown, acted as toast-master and introduced R. D. Gibson, of Youngstown.

The Hon. S. D. L. Jackson spoke upon the subject, "Surgery of the River Nile." Mr. Jackson's talk was full of wit and brought laughter frequently from his audience.

C. A. L. Reed was to have spoken on "Medical Legislation," but unfortunately the Erie train was six hours late, and much to our sorrow he was unable to get here. Meeting adjourned at 1 a. m.

The Mahoning County Medical Society met December 5. H. C. Blott read a paper on "Some Professional Experiences." H. M. Osborne reported a case of extra-uterine pregnancy.

The election of officers for 1909 resulted as follows: President, H. E. Blott; vice-president, J. H. Bennett; secretary, Sidney McCurdy; treasurer, T. J. Arundel; board of censors, J. J. Thomas. Two members of the society were reported to the board of censors for advertising in the lay press and by other means. R. H. Mont-

gomery aroused a great deal of interest in reviewing past history and outlining future possibilities.

The Summit County Medical Society met December 1. The program was as follows: "Diagnosis and Treatment of Simple Goiter," S. J. Wright; "Etiology and Diagnosis of Exophthalmic Goiter," F. C. Reed; "Medical and Surgical Treatment of Exophthalmic Goiter," L. R. C. Eberhard. The discussion was led by C. S. Hiddleston.

W. A. Sackett gave a report of the International Tuberculosis Congress.

Buchtel College authorities have offered the physicians of Akron and vicinity the use of a room in their new chemical laboratory building for the establishment of a clinical laboratory.

The election of officers for 1909 resulted as follows: President, J. H. Weber; vice-president, E. A. Weeks; secretary, H. D. Todd; treasurer, L. J. Wise; delegate, C. E. Held; board of censors, M. D. Stevenson; committee on health and legislation, W. A. Sackett; library committee, T. K. Moore; state legislative committeeman, J. A. Hulse.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Jefferson County Medical Society met in Steubenville December 8. J. C. M. Floyd read a paper on "Dysuria: Etiology and Treatment." "Anomalous Cases in Practice," W. H. Wood. J. R. Mossgrove reported the following case of gunshot wound of the ciliary region, with extraction of shot and recovery:

H. H., male, age twenty-six, while hunting, received a squirrel shot through the cornea-scleral margin of the right eye. Examination an hour later showed penetrating wound through the corneo-scleral margin 6 mm. in length; the iris was torn loose from the ciliary margin and lay prolapsed in the wound; there was extensive hemorrhage both into the anterior chamber and into the vitreous.

Treatment: Prolapsed iris was replaced, eserine instilled to prevent recurrence of prolapse and other usual treatment instituted. Seven days later an endeavor to locate and remove the shot was made. Bearing in mind the direction from which the shot came and the probable angle at which the shot struck the eye, I made an incision at the junction of the middle and posterior thirds of the inner side of the globe and a little below the junction of the upper and lower halves. Upon gentle insertion of a probe the ball was located a short distance within the vitreous and was readily

removed. After this the eye went on to uninterrupted recovery.

I report this case of wound of the corneo-scleral margin involving the ciliary process, in which, although the foreign body penetrated the eye, by conservative treatment the foreign body was removed and the eye saved.

Last summer at the meeting of the American Medical Society at Chicago, John A. Donavan read a very admirable paper, in which he advocated less haste in the removal of eyes suffering from wounds of the ciliary body. This case is reported as an example of what may at times be accomplished by conservative treatment and is only one of a number of similar character. As it has been the usual practice among the majority of surgeons to advise immediate removal of eyes with penetrating wounds of the ciliary region, I think the subject is one deserving of future careful consideration along more conservative lines, and the more we study these cases the less enucleations will we do and the more eyes we will save.

The following officers were elected for the ensuing year: President, Joseph Robertson; vice-president, Walter Strayer; secretary-treasurer, J. R. Mossgrove; member auxiliary legislative committee, Geo. Fitzsimmons; censor, H. W. Nelson; delegate, W. E. Kerr; alternate, W. H. Wood.

The regular meeting of the Columbiana County Medical Society was held at Lisbon December 8. The following officers were elected for the ensuing year: President, Wm. N. Calhoun, East Liverpool; vice-president, C. P. Hartford, East Palestine; secretary, A. Cruikshank, Salem; treasurer, J. B. Talmage, Columbiana.

The following program was given: "Rachitis," G. O. Rowlands, East Palestine; "Medical Gynecology," O. T. Thomas, Cleveland; "Colds," A. R. Cobb, Damascus.

A meeting of the Harrison County Medical Society was held at Cadiz Tuesday, December 22. The program was as follows: "Children's Diseases of Second Summer," A. C. Grove, Jewett; "Typhoid Fever," S. B. McGavran, Cadiz; "Treatment of Constipation," J. D. West, Hopedale; "Some Pointers in Diagnosis," C. W. McGavran, Columbus.

EIGHTH DISTRICT

CHARLES H. HIGGINS, M. D., Collaborator.

At a meeting held by the Licking County Medical Society the following program was carried out: Chas. A. Wingerter, president of the West Virginia State Medical Society, gave an address

on "Organization and Post-graduate Work." Following this the annual election of officers took place, with the following result: President, L. N. Palmer; vice-president, B. F. Barnes; secretary, W. E. Wright; censor, H. H. Postle; auxiliary committeeman, A. T. Spear.

The Noble County Medical Society met Thursday, December 10, at 1:30 p. m. A very interesting paper was read by J. G. Albers and was ably discussed by the members. The following officers were elected for 1909: President, W. S. Williams; vice-president, John Finley; secretary, F. R. Dew; treasurer, J. L. Gray; censor, C. P. Simons; delegates to state meeting, J. G. Albers and John Finley; alternates to state meeting, C. A. Craig and J. S. Teters; committee on program, W. S. Williams, G. T. Snodde, F. R. Dew; committee on public health and legislation, J. L. Gray, W. S. Williams.

At the November meeting of the Muskingum County Medical Society a banquet and reception was given the society by Dr. and Mrs. H. T. Sutton. Following the banquet the Hon. A. A. Frazier, judge of the Common Pleas Court, gave an address on medico-legal subjects. His address dealt with "The Civil Responsibility of the Medical Practitioner" and was a thorough and practical presentation of this subject.

F. S. Baron read a report of the International Congress on Tuberculosis.

At the December meeting of the Muskingum County Medical Society there was present the largest attendance of any regular meeting in the history of the society. There were also present eleven druggists, who participated in the discussion of questions regarding the prescribing of alcoholic beverages by physicians in Zanesville since the recent voting dry of Muskingum county. A resolution was concurred in that physicians and druggists should co-operate as much as possible in a strict observance of not only the letter, but the spirit of the Rose law.

R. B. Bainter read a paper on "The Treatment of Joint Tuberculosis." He emphasized the importance of the general hygiene, fresh air and proper food. In addition to good meats, fruits and vegetables in season, he would insist on the consumption of four to six fresh eggs and one or two quarts of rich milk (large percentage of cream) daily, instead of the less agreeable fats, such as cod liver oil, emulsions, etc. Within the last two or three years we have learned how to determine the resisting power of the patient by the study of the opsonic index. This gives us a

fairly accurate gauge as to the phagocytic power of the organism and is one of the chief factors which determine the prognosis. The two factors which lower the opsonic index more than all others are pain and secondary infection. Pain can nearly always be relieved by immobilization in the proper position, and the position should be such that the antagonistic muscles surrounding a joint should be in exact equilibrium. If the part is immobilized properly and secondary infection is prevented, nearly all cases of joint tuberculosis will heal. In the more severe cases, where we have secondary infection, our newest aids in the treatment are the vaccination treatment introduced by Wright and the bismuth paste recently introduced by Beck, of Chicago. The Wright vaccine treatment consists of the subcutaneous injection of Koch's new tuberculin at varying intervals, depending upon the opsonic index of the patient, as it is the careful study of the index that makes the difference in its efficacy. It has been proved by Wright and others that tuberculin must be given very carefully, as it may do as much harm in one case as it does good in another, and the only way in which the dose and the frequency of its administration can be regulated is by a careful study of the opsonic index. We should not give a sufficiently large dose to unduly depress the index, nor a new dose while the index is on its downward course.

If, in spite of every precaution, secondary infection does occur, the prognosis is more favorable now than a few years ago. In addition to the treatment already mentioned, tubercular sinuses can be made to heal much more rapidly than has been possible heretofore by the use of a method which Emil Beck, of Chicago, introduced several months ago. This consists of injecting the sinuses with a sterile bismuth paste, consisting of 60 parts vaseline and 30 parts bismuth subnitrite. This paste is injected at a temperature of about 110° F. and repeated three or four times at intervals of a few days, and if at the end of this time the sinus has not stopped discharging it is then injected with a paste of vaseline 60, bismuth subnitrite 30, paraffine 5 and white wax 5 parts. Some will heal with one injection, and many with four or five injections, while in some cases the treatment is a failure.

J. R. McDowell's paper was entitled "The Oponics and Their Application in the Treatment of Disease." Dr. McDowell said in part:

Immunity was first taken up and classified as "natural" and "acquired." Acquired immunity was divided into "toxin" and "bacterial" immunity.

Immunity was also classified as "active" and

"passive," and the difference pointed out between the injection of "vaccines" or "bacterins" to produce active immunity, and the injection of "antitoxin" to produce passive immunity.

The Alexin theory of Buchner, the phagocytic theory of Metchnikoff, the bacteriolytic theory of Pfeiffer and the opsonic theory of Wright as applied to the production of immunity were all taken up and explained diagrammatically by Ehrlich's "side chain" theory.

The opsonic theory, including the manner of obtaining the vaccines or bacterins, their use as diagnostic and curative measures, and the different reactions of the human organism after their injection was then discussed in detail.

The opsonic index and the technique of determining it were explained; also the value of this index in conjunction with the vaccine treatment. It was shown that the negative phase which follows first upon the injection of vaccines may appear in the blood index, while no clinical symptoms are exhibited. This negative phase is characterized by a low opsonic index and sometimes by a temperature reaction or by local symptoms at the point of inoculation. At there is a cumulative action in the direction of the negative phase and this phase may not be shown clinically, the danger of the vaccine treatment, without determining the opsonic power of the blood, is obvious.

The "positive phase," which follows the negative, is characterized by a higher index and usually by an improvement clinically.

A resumé was then made of the work done within the last two years by different men in the treatment of tuberculosis, gonorrhea, pneumonia, scarlet fever, skin diseases and carbuncles, furunculosis, etc., by vaccine inoculation. The conclusions were as follows:

In carbuncles, furunculosis and such affections, the vaccine treatment seems to have been very successful, even without the use of the blood index.

In gonorrhea some success has been experienced, especially in acute cases.

The tuberculin treatment, in conjunction with the blood index, has been successful in selected cases of tubercular joints and sinuses. In cases of mixed infection, while the opsonic index may be raised, there is not a corresponding clinical improvement.

In closing, it may be said that the opsonic treatment is still somewhat complicated, but there is no doubt as to its efficacy in certain affections. With the immense amount of work now being done upon this subject it is certain that in the near future specific vaccine treatment will be as

efficient in the hands of the general practitioner as are now the bovine vaccine and the diphtheria antitoxin.

W. F. Sealover reported and also presented the post-mortem specimen of a death from hemorrhage due to a ruptured tubal pregnancy. He had been hurriedly called the previous morning to see a woman, but on arriving at the house the patient was dead. A suspicious discharge of blood from the vagina led him to notify the coroner. A post-mortem examination was ordered, and upon opening the abdomen it was found to be distended with blood. Two washbasinfuls were removed. A two-months fetus was found in the blood. The right tube, near the uterus, contained a vent from which the fetus had escaped. This woman had complained of severe pains about four days before her death, but presented no symptoms alarming enough to cause her to consent to the summoning of a physician until a few minutes before her death. The report was fully discussed, the discussion being on the question as to whether, had the doctor been called when the woman had her first pain, the condition recognized and an operation performed, her life might have been saved.

NINTH DISTRICT

S. P. FETTER, M. D., Collaborator.

The Pike County Medical Society met in regular session at Waverly in December. On account of the absence of the officers, J. L. Caldwell was made president, and A. L. McAllister was appointed as secretary pro tem. The annual election resulted as follows: I. P. Seiler, of Pike-ton, was nominated with much enthusiasm, and the rules were suspended and he was unanimously elected president. C. H. Willson was nominated for the position of vice-president, and, the rules being suspended, the secretary cast a ballot for his election. In the same manner L. E. Wills was elected secretary and A. L. McAllister treasurer. Dr. Wills resigned as a member of the board of censors, and P. T. Leighley and C. M. Mooney were elected as members of this board. Following the election of officers, O. C. Andre read a paper on "Bronchitis," which was the subject of very practical discussion by the members.

The Gallia County Medical Society held its regular meeting in the City Hall, Gallipolis, on November 4, beginning at 1:15 p. m. The president, Dr. Miller, was in the chair. Several clinical cases, each of marked interest, were presented. Dr. Eakins presented two cases. (1) Aged man with cutaneous tumor growing from bridge of nose; probably lupus. (2) Middle aged wo

man giving symptom picture of some complexity, the diagnosis being either chronic appendicitis or floating kidney.

W. E. Howell presented a case of skin tumor, tentatively diagnosed as papilloma.

Dr. Parker presented a case of gunshot wound.

George M. Waters, professor of medicine in Starling-Ohio Medical College, read a strong, interesting essay upon "The Significance of Pain," dwelling particularly upon pain in the gastrointestinal tract and in immediately related organs. Pain from gastric ulcer and cancer, from pancreatic and gall bladder disease and from appendicitis was carefully defined. The paper was generously discussed.

Upon motion by E. G. Alcorn, seconded by Dr. Parker, a vote of thanks was extended to Dr. Waters.

The Gallia County Medical Society met in Gallipolis December 2. William Miller delivered an excellent address upon the subject, "The Wherefore and the Whereof of the Code." It is always a timely subject, and in this instance it aroused wholesome deliberations and reflections.

E. B. Morrison brought forth much discussion by an essay upon "Therapeutic Reflections." Among other things he sought to emphasize the wisdom of following judiciously the path which leads between polypharmacy and therapeutic nihilism.

The officers elected to serve for the ensuing year are as follows: President, William Miller, Thurman; vice-president, C. G. Parker, Gallipolis; secretary, Jehu Eakin, Gallipolis; treasurer, G. G. Kineon, Gallipolis; censors, Ella Lupton of Gallipolis, Wm. H. Pritchard of Gallipolis, and S. W. Williams of Mercerville.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

At the meeting of the Columbus Academy of Medicine held December 7 the following program was carried out:

Charles E. Turner reported two cases of puerperal eclampsia, which were discussed by Drs. Moore, Rodgers, Rankin, Goodman, Howell and Harding.

W. D. Hamilton read a paper on "Hysterec-tomy." Discussed by Drs. Means and Baldwin.

J. F. Baldwin reported and presented a specimen of abdominal pregnancy which had gone on to seven months' development before death of the fetus occurred. He had removed it two months later. The fetus was somewhat macerated, and the placenta had largely degenerated, so that its removal was accomplished without hemorrhage.

The operation had been made about ten days before, and the patient was convalescent.

In connection with this case he gave a history of two cases of ectopic pregnancy occurring in prostitutes.

He also presented a kidney which he had removed a few days before and which had been practically destroyed by the presence of about thirty stones. There was a clear history extending back for at least fifteen years, during which time the patient had given birth to four children. Was now convalescent and ready to leave the hospital.

J. U. Barnhill presented a hypertrophied prostate to show an unusual development of the "middle" lobe. The gland had been successfully extirpated through a median perineal section.

At the meeting on October 19 of the Columbus Academy of Medicine James U. Barnhill presented a paper on "The Ochsner Treatment of Appendicitis." The doctor said in part:

A great majority of physicians understand Dr. Ochsner's postulates, and thousands of surgeons faithfully follow them in treating appendicitis. Nevertheless, we hear it frequently stated that the treatment is misunderstood, that it is made the excuse by many physicians for advising against operation, and that many patients, after the fast-ing period, feel themselves relieved and refuse to submit to operative procedures.

Dr. Ochsner described in full his treatment before the Chicago Medical Association October 10, 1900, giving in this original paper the results of eight years' employment of the treatment. At that time he set forth certain propositions in reference to the treatment which were very widely quoted in medical journals. Greater prominence was given to his method when he presented it in his chairman's address before the section on surgery at the fifty-second annual meeting of the American Medical Association at St. Paul in 1901. He deserves great credit for systematizing the results of his own observations and experience, for calling attention to the admirable protection which nature affords the appendix by its anatomical surroundings, and for the danger occasioned by peristaltic motion in the small intestine. In his second paper he described (a) the attempt on the part of nature to close the ileocecal valve to prevent the passage of the intestinal contents into the inflamed area, (b) the movement of folds of the omentum toward and around a seat of injury, (c) the increased peristalsis occasioned on the introduction of food into the stomach, (d) the exudate and new formation

wall thrown out by the peritoneum to wall off the inflamed appendix, (e) the harmful influence which cathartics exert by disturbing the inflamed tissues and by carrying infectious material to other parts of the peritoneal cavity, (f) the toxic character of stomach contents and (g) the danger of operation at the acme of septic intoxication.

We may best describe the treatment by giving his conclusions or postulates:

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.

2. Patients suffering from acute appendicitis should be operated upon as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.

3. Aside from insuring a low mortality this will prevent all serious complications.

4. In all cases of acute appendicitis, without regard to the treatment contemplated, the administration of food and cathartics by mouth should be absolutely prohibited, and large enemata should never be given.

5. In case of nausea or vomiting, or gaseous distention of the abdomen, gastric lavage should be employed.

6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, fasting and gastric lavage should always be employed until the patient's condition makes operative intervention safe.

7. In case no operation is performed, neither nourishment nor cathartics should be given by mouth until the patient has been free from pain and otherwise normal for at least four days. The same practice should be followed after operation.

8. During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later small sips of very hot water frequently repeated may be given, and still later small sips of cold water. There is danger in giving water too freely, and there is great danger from the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases of patients suffering from acute appendicitis.

10. It should be constantly borne in mind that even the slightest amount of liquid food of any

kind given by mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods on the market, dissolved in three ounces of warm normal salt solution, introduced slowly through a soft catheter inserted into the rectum a distance of two or three inches.

12. This form of treatment cannot supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation.

To conclusion 8 is now regularly added the method, introduced by Dr. Murphy, of administering a continuous enema of normal salt solution, and in case of diffuse peritonitis the Fowler position.

The clearness of statement in these conclusions should be a guarantee against misconception or misunderstanding, and the soundness of the principles upon which they are based should secure for them general recognition. One misconception relates to the extent to which the treatment applies. Physicians generally seem to assume that the Ochsner treatment refers to fasting and rest, without reference to other phases of the treatment. They fail to note that the second postulate recommends early operation when practicable in all cases, and that other postulates cover indications for treatment of the severe as well as the interval cases.

There is no suggestion in these postulates that this treatment is to serve as a substitute for operation. It is from beginning to end surgical or a preparation for surgical measures. The starvation part of it should perhaps be called Ochsner's preparation for operation rather than his treatment, for his treatment proper includes operation. We should bear in mind that the treatment includes preparation, operation and after care.

The persistent misinterpretation of this treatment and the alleged harm that some think result from its employment are certainly not inherent in the treatment nor traceable to inadequacy of statement by its author.

To review briefly the Ochsner treatment, in all cases of acute appendicitis all food, water and cathartics by mouth are prohibited. If nausea persists, gastric lavage is repeated once or twice at intervals of two or four hours. In all cases seen within thirty-six hours which give no evidence of perforation or diffuse peritonitis, immediate or

early operation is performed. In cases in which recovery seems doubtful the operation is to be postponed and the Ochsner starvation preparation carried out, and in such cases a late operation is to be performed, with complete removal, if infection is confined to the appendix or if circumscribed abscesses have developed they are to be opened and drained. The advantage of this treatment is that there is almost no mortality. The patients are promptly cured, suffering is reduced to a minimum and complications are not liable to occur.

In cases of perforative or gangrenous appendicitis, with and without abscess, concerning which there is perhaps the greatest diversity of opinion, the Ochsner treatment has succeeded in greatly reducing the mortality. In a series of a thousand consecutive cases of appendicitis reported by Dr. Ochsner there were fifty-five cases of perforative or gangrenous appendicitis with abscess belonging to this class—all treated by the starvation preparation and subsequent operation without a death. In all of these cases food by mouth and cathartics were prohibited. Gastric lavage was employed, exclusive rectal feeding was instituted and continued for one week or longer until they were normal as regards temperature, pulse and pain in the region of the appendix. The operation was performed in most cases within four days after admission to the hospital; in the others the period of preparation treatment was longer. In all cases the appendix was completely surrounded by omentum and new wall formation, effectually circumscribing the infectious material.

About the time of the publication of Dr. Ochsner's report Dr. Richardson reported his elaborate study of 750 cases in which operation for acute appendicitis was done by the rules then generally in vogue, showing a mortality of 18 per cent.

My own results in applying this treatment have been most satisfactory and have convinced me from observation that the Ochsner treatment of appendicitis is founded upon sound surgical principles, principles applying to many other inflammatory processes.

The more carefully we study these principles and the more clearly we see them worked out in actual practice the more will we realize their truth and vital importance. His postulates should be studied as a whole and they should be studied in connection with Dr. Ochsner's other classical and epoch making papers and reports on this subject. Thus will the misconception which to the shame of the profession is quite too general in

reference to this treatment be corrected. Then shall we realize that the Ochsner treatment is not a medical treatment, but surgical from beginning to end; that to withhold food and lavage the stomach is to secure rest and conserve strength; that to limit the peristalsis and thus give the inflamed appendix and its environment a rest is just as rational as to splint a fracture or exclude light from the inflamed iris or retina.

Then we shall realize that Dr. Ochsner is not timidly conservative, but safely radical, and that he is staunch enough and loyal enough to his convictions not to be persuaded into operating at an unfavorable time simply for fear that in being relieved of pain the patient may refuse operation later.

At present almost all appendicitis patients have had food and cathartics before coming under the surgeon's care. The physician sees them a day or two before the surgeon, and this is admittedly a critical time. With this treatment, notwithstanding the damaging influence of food, water and cathartics, early operations have reduced the mortality to less than one-half of 1 per cent., and in all cases it has reduced it approximately from 12 to 2.5 per cent. How much more might we reduce it if we would all adopt the principles of this treatment in the critical hours before the patient enters the hospital, as well as thereafter. Is it not rational to believe that we should thus still further reduce the mortality from this disease?

At a meeting of the Ross County Medical Society the following officers were elected for 1909: President, Frank T. Marr, Chillicothe; vice-president, H. H. Marsh, Chillicothe; secretary, R. E. Bower, Chillicothe; treasurer, A. E. Merkle, Chillicothe; legislative committee, Willard A. Hall; censor, J. M. Leslie; delegate, D. A. Perrin; alternate, Jno. W. Maxwell.

Hugh F. Lorimer gave a valedictory as outgoing president on the subject "Twenty-five Years in the Harness." J. M. Evans, of Clarksville, who has been practicing for more than sixty years, gave a paper on "Alkaloidal Medication."

The following officers were elected for the ensuing year by the Crawford County Medical Society: President, A. E. Loyer, New Washington; vice-president, J. J. Martin, Bucyrus; secretary, J. A. Agnew, Crestline; treasurer, K. J. Rayl, Galion; board of censors, Dr. Virtue, Sulphur Springs; legislative committee, E. D. Helfrich.

NEWS NOTES

H. B. Shelton, Georgetown, has sailed for Europe.

The new Jefferson Hospital, Toledo, was formally opened November 11.

Dr. and Mrs. Clem McCoy have returned from a two months' vacation trip to Honolulu.

S. A. Hitchcock, Lima, while alighting from a car November 6, fell and fractured his hip.

William Shepard, of Shepard, celebrated his eighty-third birthday anniversary December 2.

The Obstetrical Society of Cincinnati met with the president of the club, C. L. Bonifield, in December.

Theodore Bange has been appointed deputy coroner of Hamilton county by the coroner-elect, O. P. Coe.

W. D. Murphy, Columbus, responded to a telephone message on the night of December 10 and was assaulted by two men. He escaped serious injury.

According to the report filed with the Board of Health, there are 121 cases of pulmonary tuberculosis in the Columbus State Hospital for the Insane.

The new hospital building at the U. S. barracks, Columbus, which cost \$150,000, is now occupied. The old building has been converted into a laundry.

Cornelius Keller, Cincinnati, has resigned as first assistant to Frank Harmon, superintendent of Longview Hospital, to take up private practice. He will be succeeded by John Batte.

The Richland County Medical Society has secured quarters in the Library Building, Mansfield, where medical books and journals are to be kept in easy access of physicians and out of reach of the laity.

O. P. Geier, of the Milk Commission of the Cincinnati Academy of Medicine, stated that the anti-slop feeding law which was passed by the Legislature is being ignored by all except one distillery in Cincinnati.

Starling Loving, Columbus, celebrated his eighty-first birthday anniversary November 13. Dr. Loving was graduated from the Starling Medical College in 1849 and at the present is actively engaged in the practice of medicine.

Governor Harris reappointed Darwin G. Palmer, Geneva, a member of the State Board of Health for the term ending December 10, 1909. Joseph A. Hall, Cincinnati, was made a member of the commission on the erection of the Lima hospital.

Following the McCormack meeting in Elyria, the Chamber of Commerce took hold of the work and have arranged for several public meetings, thus giving a promise of permanent results. The anti-tuberculosis crusade is made a prominent feature of the movement.

The annual dinner to the medical and surgical consulting staff of the Ohio Soldiers and Sailors Orphans' Home, Xenia, was held December 4. Twenty-four physicians were present. H. C. Houston, Urbana, was elected dean of the staff, and A. C. Messenger, Xenia, secretary.

The regular meeting of the St. Alexis Hospital Alumni Association was held at the Hollenden, Cleveland, Thursday, December 3. The program was as follows: "Common Obstetrical Operations," E. O. Houck; report of cases of cerebrospinal meningitis, Arthur M. Cheatham; "Certain Uncommon Forms of Abdominal Pain," B. Peskind.

The Columbus Pathological Society was recently organized. The following officers were elected: President, Professor E. F. McCampbell, O. S. U.; vice-president, John Dudley Dunham; secretary, Frank Winders; program and censorship committee, Professor F. L. Landacre, O. S. U., and Earnest Scott. The society is composed of twenty-one members.

At the regular monthly meeting of the board of trustees of the Columbus State Hospital, in December, J. Francis Conneffe, of Philadelphia, Pa., was appointed a physician on the medical staff at the institution. Dr. Conneffe is connected with the Medico-Chirurgical Hospital in Philadelphia and will come to Columbus January 1. He will succeed Earl Gaver.

"Among the birthday honors conferred by the king was a knighthood for Mr. Jonathan Hutch-

inson in recognition of his distinguished services to medical science. * * * Forty years ago he refused the title that has now been conferred upon him. One of the few great clinicians of all times, he ranks with Sydenham, Graves, Trousdale and Charcot and in versatility he surpasses even these. Professor Osler has well described him as the only great generalized specialist which the profession has produced."—London Letter to A. M. A.

C. O. Probst, secretary of the State Board of Health, is sending out letters to members of the Ohio Society for the Prevention of Tuberculosis to meet in Columbus January 22 and take steps to reorganize the society, which has not held a meeting for several years. It was organized in 1901 and held meetings annually until President S. S. Knabenshue, of Toledo, left to accept a consular post in Europe several years ago. The organization has not been called together since. The meeting will be held at the same time that the members of the state and local boards of health will gather here for their annual conference. Many cities have local tuberculosis societies, and there is much important work that the state society could do along the line of directing the fight against tuberculosis.

The thirty-fifth semi-annual meeting of the Northern Tri-State Medical Association was held Tuesday, January 12, at Ann Arbor, Mich. The program was as follows: Neurological clinic from 9 to 10 a. m., C. D. Camp, from the university; clinic on how to examine the insane, from 10 to 11 a. m., A. M. Barrett, of the university; surgical clinic in gynecology, from 11 to 12 m., Reuben Peterson, of the university; "A New Factor in the Diagnosis of Gastric Ulcer" (with lantern slide demonstrations), A. W. Crane, Kalamazoo, Mich.; "The Early Diagnosis of Gastric Cancer," L. Breischer, Detroit; "Intestinal Tuberculosis" (with report of cases), G. W. McCaskey, Fort. Wayne, Ind.; "Why Mastoiditis is Sometimes Misunderstood," Emil Amberg, Detroit; "Certain Phases of the Treatment of Syphilis," Jeremiah Metzger, Toledo, Ohio; "Further Observations on Cancer," Geo. W. Crile, Cleveland; "Incipient and Atypical Graves' Disease," Chas. G. Jennings, Detroit; "Some Common Misconceptions of the Symptomatology of Aneurisms of the Thoracic Aorta," Robert B. Preble, Chicago. The faculty of the university and the local profession entertained the visiting physicians.

a very successful meeting at the Great Southern Hotel, Columbus, December 28. The program was as follows:

First Session, 1 p. m.—"What Should be Taught in Anatomy?" Prof. W. E. Lewis, Miami Medical College; "A Graded Anatomy Course," Prof. Chas. W. Moots, Toledo Medical College; "Methods in Teaching Internal Medicine," Prof. C. F. Hoover, Medical Department Western Reserve University; "What Should be Taught the Medical Student in Chemistry?" Prof. J. U. Lloyd, Eclectic Medical Institute; "The Medical Flavor in Medical Chemistry," Prof. Park L. Myers, Toledo Medical College; "Pedagogic Methods in Medical Colleges," Prof. W. J. Means, Starling-Ohio Medical College.

Evening Session, 8 p. m.—"The University Idea," Prof. C. E. Walton, Pulte Medical College; "Advances via Pharmacology," Prof. Chas. S. Souder, Toledo Medical College; "The Teaching of Pediatrics," Prof. S. W. Kelly, Cleveland College of Physicians and Surgeons; paper, Prof. Yeatman Wardlow, Starling-Ohio Medical College.

The regular semi-annual examination of the Texas State Board of Medical Examiners will be held in Cleburne, Cleburne High School Building, June 22, 23 and 24. All applicants should be present at 9 a. m. Tuesday, June 22. The schedule of examinations is as follows: Tuesday, 9 to 10 a. m., inspection of diplomas; 10 to 12 a. m., anatomy (10 questions); 1:45 to 3:45 p. m., bacteriology (10 questions). Fifteen minutes recess. At 4 to 6 p. m., chemistry (10 questions); 8 to 10 p. m., gynecology (10 questions). Wednesday, 8 to 10 a. m., histology (10 questions). Fifteen minutes recess. At 10:15 a. m. to 12:15 p. m., hygiene (10 questions); 1:45 to 3:45 p. m., medical jurisprudence (10 questions). Fifteen minutes recess. At 4 to 6 p. m., obstetrics (10 questions). Thursday, 8 to 10 a. m., physiology (10 questions). Fifteen minutes recess. At 10:15 a. m. to 12:15 p. m., pathology (10 questions); 1:45 to 3:45 p. m., physical diagnosis (10 questions). Fifteen minutes recess. At 4 to 6 p. m., surgery (10 questions). Total, 120 questions. The order of examination cannot be varied from in any respect, and every applicant who desires to be examined must commence the examination on the morning of Tuesday, June 22. No person will be examined on June 22 except those who have made proper application on the blank forms issued by the State Board of Medical Examiners and have paid fee on or before June 10. The fees paid will be returned the persons unable to appear for

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examination. But, unless the applicant is prevented by illness from taking the examination, he shall forfeit the sum of \$2 of the fee paid to defray the expenses incurred in arranging for his examination. Applicants are requested to provide themselves with paper 8½x11 and envelopes 4½x9½ inches in size, in which to enclose each paper when finished. The application and fee must be sent to the secretary at Honey Grove. The applicant must present his diploma for inspection at the examination. The filing of an application or the taking of the examination does not entitle applicant to practice, the only legal authority being a certificate from the State Board of Medical Examiners, recorded in the district clerk's office of county of residence. M. E. Daniel, Secretary and Treasurer.

DEATHS

John M. Ireland, interne at the German Deaconess Hospital Cincinnati Home, Wilmington, died in the hospital from typhoid fever November 28.

J. M. Harris, Bellevue Medical College, '68, of Yellow Springs, died recently in the Isle of Pines, Cuba, aged seventy.

T. M. Lanahan, Cleveland College of Medicine, '93, died at the home of his parents in Southington November 28 from heart disease, aged thirty-nine.

S. F. Cosgrove, Cincinnati College of Medicine, '75, died at his home in Swanton November 23, aged sixty-one.

G. W. Bowen, University of Michigan, '60, died at his home in Toledo November 4 from heart disease, aged seventy.

C. C. Stokes, Cincinnati College of Medicine, '74, died at his home in Rushsylvania November 9, aged fifty-nine.

P. P. Outland, Eclectic Medical Institute, Cincinnati, '81, died in Zanesfield November 5, aged fifty-seven.

O. S. Mills, Medical College of Ohio, '88, died in Gallipolis November 24 from a self inflicted gunshot wound of the head, aged forty-eight.

C. D. Noble, University of Louisville, '68, of Oberlin, died November 16, aged sixty-five.

G. W. Root, Cleveland Homeopathic Medical College, '02, of Alliance, was accidentally shot while hunting near Birkendale, Ont., November 7, aged twenty-seven.

D. W. McClure, Medical College of Ohio, '85, died in Cincinnati from a fracture of the skull November 1, aged forty-nine.

J. W. Poage, Medical College of Ohio, '48, died at his home in Cincinnati November 29 from heart disease, aged eighty-three.

RESOLUTIONS

It having pleased the Omnipotent, whose ways we do not presume to understand, to remove by the hand of death our fellow practitioner, C. C. Stokes, and recognizing his honesty and sterling worth, we, the members of the Logan County Medical Society, do hereby tender our sympathy to those that were near and dear to him, and that we ourselves strive to emulate his good qualities as a citizen and physician. In view of these facts,

Therefore, we wish these resolutions to be placed on our minutes and a copy sent to his family; also a copy be sent to THE OHIO STATE MEDICAL JOURNAL for publication.

C. E. HUSTON,
LESTER C. PRATT,
J. C. BANNING,
Committee.

WILLIAM L. PINKERTON.

William L. Pinkerton was born February 2, 1840, in Ohio county, West Virginia, and died December 6, 1908, at his home in Galloway, Franklin county.

He read medicine with T. B. Williams in Delaware, and on February 28, 1871, was graduated from Starling Medical College. He began the practice of medicine in Oswego, Kan., where he remained for more than a year, when he returned to Ohio and practiced in Broadway, Union county, for a few years. In 1874 he moved to Galloway, Ohio, where he spent the remainder of his life.

Dr. Pinkerton was a man of strict integrity and unsullied character and enjoyed high social standing in the community. Professionally he was strictly ethical. A special trait in his character as a physician was his uniform kindness to the poor. He was a successful practitioner and had the confidence of the people.

For a number of years he was a member of the Central Ohio Medical Society and served one year as its president. He was a member of the Columbus Academy of Medicine, the Ohio State Medical Association and the American Medical Association.

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ORIGINAL ARTICLES

THE PRESENT STATUS OF THE RADICAL MASTOID OPERATION FOR THE CURE OF CHRONIC PURULENT OTITIS MEDIA.

WENDELL C. PHILLIPS, M. D.,
New York City, N. Y.

[Read before the Eye, Ear, Nose and Throat Section of the Ohio State Medical Association, at Columbus.]

The invitation to address the medical society of the Buckeye State at its annual conclave upon some subject relating to otology is an honor which I fully appreciate. In response to the invitation I submitted to your officers several topics, from which they finally selected the one which appears upon your scientific program, viz.: "The Present Status of the Radical Mastoid Operation for the Cure of Chronic Purulent Otitis Media." My remarks will therefore be confined to purulent otitis media in its chronic form, and the methods for its relief. Even with these restrictions I have found it extremely difficult to arrange the material in such a form as to present it in the brief time at my disposal.

Chronic purulent otitis media may be described as a chronic infective inflammatory process involving the structures of the tympanic cavity, with more or less persistent purulent discharge, and usually pathological changes in the mucous membrane and surrounding bone in the form of necrosis of some portion of the ossicular chain, tympanic walls, recessus epitympanicus, aditus ad antrum, antrum of the mastoid, the mastoid cells or labyrinth. Cholesteatoma may or may not be present. We all know that the tendency to bone necrosis in chronic purulent otitis media renders it complex disease, and one attended with difficulties in the way of treatment, extreme annoyance to the comfort of the individual, considerable danger to life on account of

the possibility of intra-cranial complications and lateral sinus thrombosis.

The line of demarcation between the acute and the chronic form of the disease may not be clearly defined. The persistence of an otorrhea beyond eight or ten weeks is, by common consent, considered to have assumed the chronic form.

In order that we may more intelligently consider the operative requirements, I shall briefly outline the etiology, pathology and preventive measures of treatment.

ETIOLOGY. In an otherwise healthy individual, with proper care and skillful treatment based upon modern methods, even though the disease results from some infection of virulent type, an acute purulent otitis media should always be recovered from in from two to eight weeks, the exception to this rule occurring in tuberculosis, syphilitic or malignant cases. It is my personal belief that if all acute cases be subjected to proper treatment, the disease in the chronic form would be almost unheard of. Without wishing in any manner to reflect upon the medical profession in general it still remains a fact that this disease usually results from neglect or unskillful treatment of acute attacks or from failure to prevent recurrences by maintaining good health, caring for intranasal infections and deformities and the removal of diseased adenoid tissue and hypertrophied tonsils in young children. Primarily the undergraduate college is at fault in not providing adequate facilities for instructing students in the actual diagnosis and treatment of the diseases of the ear, nose and throat.

Chronic purulent otitis media may result from a single attack or a series of recurring acute attacks; in most instances, however, some complication, either a mastoiditis or at least an involvement of the mastoid antrum, has accompanied the acute infection. It is probable that a large proportion of all chronic cases have at some time had mastoiditis from which recovery has taken place without operation, but with loss of hear-

ing, chronic offensive discharge and all the dangers attending chronic bone necrosis.

A simple mastoid operation promptly performed prevents all of these serious sequelæ and almost without exception gives perfect hearing.

A series of predisposing factors enter into the history of every case. The most prominent of these are disease and hypertrophy of the lymphoid tissue in the vault of the pharynx and of the faucial tonsils. Recurrent attacks of otorrhea in young children are always an indication of the presence of adenoids and hypertrophied tonsils. Intranasal infections and deformities must also be duly considered. Acute infectious diseases, especially those peculiar to childhood, together with grippe, diabetes, syphilis and tuberculosis, form a distinct class of predisposing factors. This is partially due to the virulency of the infection which accompanies them, and also to the systemic depression which is present. Such aural complications as involvement of the epitympanic space, aditus ad antrum and mastoid antrum strongly predispose to the chronic condition, and especially so in patients who do not receive proper care and treatment. The type of infection is also an important etiological factor, a streptococcic invasion always giving a virulent type to the infective process.

Pathological changes in the chronic purulent type of inflammation are referable either to the soft tissues or the bony surroundings. When confined to the middle ear mucosa the membrana tympani becomes partially or wholly destroyed. The inflammatory process may involve the entire intratympanic mucous tract or it may remain limited to certain localized areas. The tissue changes consist in swelling, connective tissue inflammation, granulations, polypoid degeneration and ulceration. In the more severe forms necrosis takes place, involving one or more parts of the middle ear, and always attended with pus discharge. Bone necrosis may be confined to the ossicular chain, but as a rule the tympanic ring and bony walls of the tympanic cavity gradually succumb to the necrotic process. Unfortunately necrosis is prone to extend through the aditus into the mastoid antrum and the mastoid cells. Even the petrous portion of the temporal bone (which contains the cochlea and semi-circular canals) is not exempt, and herein lies one of the dangers of the disease. Bone necrosis may be considered the danger signal of chronic purulent otitis media. (The span of bone between the roof of the attic and mastoid antrum and the middle cerebral fossa is not great. Fortunately it possesses two firm walls

through which the necrotic process must pass before entering the cerebral cavity. The same holds true in regard to the enormous blood channel, the lateral sinus, which traverses in close proximity to the mastoid antrum, although beneath the inner bony table. Loss of substance involving both the soft tissues and bony structures is a common pathological change observed within the tympanic cavity. Perforations of the membrana tympani, varying in size and location, are always present.

SYMPTOMS. Unlike acute purulent otitis media, an extensive and prolonged purulency may exist with entire absence of pain. Whenever pain is present it is an indication either of some slight obstruction to the normal pus flow or to the commencement of some more serious complication associated with an extensive purulent process. Disturbances of hearing, all the way from slight to complete deafness, are present in every case.

The chief symptom of the affection is a constant flow of pus from the external auditory canal. When bone necrosis is present the pus will possess the carrion-like odor indicative of this condition. In a limited percentage of cases there is a formation of cholesteatoma. In my experience the percentage of true cholesteatomatous cases in this country is extremely small. When present large masses of cholesteatoma exfoliate at intervals, after which relief of symptoms will take place. Fever is rarely present in uncomplicated cases. Recurrent attacks of mastoiditis are sometimes observed, and when sinus thrombosis, pyemia, meningitis or brain abscess develop, the typical symptoms of these complications make their appearance.

DIAGNOSIS. The diagnosis is based upon the history of prolonged otorrhea and upon the otoscopic findings. Generally the auditory canal will be found filled with pus, which varies in color from pure white to brownish or bloody, marked fetor always pointing to the existence of bone disease, or to the presence of cholesteatoma. Lack of fetor may be taken as an indication that the chronic inflammation is confined to the soft tissues or is due to the absence of putrefactive bacteria. The appearance of the intratympanic mucosa varies considerably in color. It will be found red and swollen, having an edematous appearance, often with polypoid or granular excrescences. Large areas of extensive sclerosis are found in some cases. By means of a small, properly curved silver probe introduced the necrosis may often be made out.

PROGNOSIS. The prognosis of this disease de-

pend upon the extent of the necrotic process, the physical condition of the patient, and largely upon the methods of treatment employed for its relief. In uncomplicated cases with the absence of bone necrosis and cholesteatoma, especially when the naso-pharyngeal obstructions and diseases can be relieved by local operative interferences, and with modern methods of local treatment directed to the disease, the prognosis should not be considered unfavorable. Many such cases terminate in recovery, although traces of the disease may remain in the form of tympanic scars, dryness, perforations, sclerotic changes, and calcareous deposits in the membrane, and also varying degrees of deafness. Whenever any considerable degree of bone necrosis is found the prognosis must be considered less favorable on account of the difficulties present in the way of treatment, and because of the tendency to extension of the necrotic process to nearby and often vital structures. While the proportion of chronic purulent cases which at some period of life develop some serious intracranial or lateral sinus complications is not large, they do occur and they may occur in any given case.

This affection should never be considered lightly, neither should it be allowed to progress unattended by painstaking, persistent efforts to eradicate the diseased process, or at least to minimize its activity. The prognosis is unfavorably influenced by granulations and polypoid masses. These usually protrude from the attic region and are indications of necrosis which may extend to the mastoid antrum.

TREATMENT. In the foregoing remarks I have attempted to place before you the various phases of chronic purulent otitis media. Briefly stated, in chronic purulent otitis media, we have a persistent intratympanic otorrhea with necrosis of either the lining membranes or the bony walls, in close proximity to structures so vital that should the infective process reach them a fatal termination becomes imminent. Before discussing the methods of treatment I desire to suggest the following: "What would the average physician recommend for a similar condition occurring in other portions of the body, for instance, about the hip joint, in some one of the long bones, the pleural cavity, a chronic abscess about the appendix or in the pelvic region, involving the uterine appendages?" Surely such patients would not be given the advice which is often reported from patients who consult me, especially in outdoor clinics. "My doctor told me to do nothing for the discharge from my child's ear,

for if I did it would break out in some other part of his body." "My physician's advice was not to treat the chronic aural discharge, that it would disappear as soon as his permanent teeth appeared."

"My doctor has told me that it would be a great mistake to have my child's tonsils and adenoids removed." On the contrary the patient would be advised to submit to surgical treatment to be persistent in until cured. The ear should be no exception to the general rule that bone necrosis and pus discharge from any part of the human body is a menace to health and often to life, and that the safety of the individual requires prompt relief and generally at the hands of the surgeon.

No treatment should be attempted until the most careful and painstaking efforts have been made to discover the exact conditions present. Such examination to involve a thorough knowledge of the patient's general condition, whether or not organic disease is present, the state of the nose and nasopharynx, and a careful search made as to the presence of necrosed bone, the condition of the ossicles, the presence of granulation tissue in the walls of the tympanic cavity or its proliferation through the perforation into the external auditory canal. In other words the diagnosis should be made with great care, for upon it must be based the form of treatment which is to be instituted.

The treatment may be classified under three general heads, depending upon the location and extent of the disease. (1) By local measures. (2) by intratympanic operation; (3) by the so-called radical operation, the present status of which I shall endeavor to clearly set before you in the remaining portion of this address.

Of the three methods the simplest is that known as local treatment. This is applicable to and usually successful in a considerable proportion of cases of chronic otorrhea. The type of cases amenable to local treatment may be defined as the simple variety, wherein the soft tissues only are involved, or where the bone necrosis is localized, and in those where the disease is aggravated by adenoids, hypertrophied tonsils, lack of cleanliness, proper nourishment and hygienic surroundings. Here the removal of diseased tonsils and adenoids, the establishment of right habits and methods of living, internal treatment with tonics and local treatment by modern methods will usually affect a cure. Primarily the local treatment should aim to remove accumulations of pus from the tympanic cavity and external auditory canal and to promote the rapid drainage of pus. In

order to facilitate the flow of pus it may become necessary to remove or otherwise destroy masses of granulations or to enlarge the perforation.

Obstructing polypus or granulations should be immediately removed. (When of sufficient size a small snare may be employed, otherwise the most effective method is to fuse a small crystal of chromic acid upon the end of a probe and plunging it into the granulation mass.)

METHODS OF DOUCHING. The cleansing of the purulent cavity by means of the douche or syringe is best accomplished by the employment of sterile normal salt solution. (If large masses of dried secretion are found clinging to the walls of the cavity their removal is facilitated by previous instillation of a few drops of dilute hydrogen peroxide.

If necrosis is present sterile bichlorid solution, varying in strength according to the age of the patient, may be employed. These solutions should be warm, the temperature varying from 100 to 110 degrees. From one to two quarts of such solution in a fountain syringe, hung up in order to give sufficient force to the stream, will serve to wash out the external auditory canal, and, when large perforations are present, the tympanic cavity. The return flow tip facilitates douching.

It is often necessary to irrigate the tympanic cavity and attic, and this can be accomplished by using a slender glass or metal canula slightly curved upward at the tip and carried well through the perforation.

A more effective douche method has recently been devised by Dr. E. P. Fowler, one of my assistants at the Manhattan Eye, Ear and Throat Hospital, by which the douche is so arranged that suction is accomplished.

After douching there usually remains shreds of mucus or pus, and other detritus which must be carefully wiped away with the cotton probe. Any needed intratympanic application may now be made. The success of this method of treatment depends largely upon the frequency and thoroughness with which local therapeutic measures are employed. (If granulations recur applications of absolute alcohol or strong solution of nitrate of silver produce favorable results. Small areas of necrosis should receive frequent applications of nitrate of silver or iodine when the necrotic areas slough away.) This treatment cannot be fully trusted to the mother and rarely even to the nurse, but the physician himself must not only examine the ear but also personally administer the local treatment almost daily for long periods of time.

At each sitting, in addition to ordinary douch-

ing, a careful otoscopic examination should be made and all remains of pus and detritus carefully wiped away. Inflation in chronic cases is often beneficial, the air douche forcing retained secretions from the eustachian tube into the tympanic cavity. In the majority of cases it is advisable to continue the local measures above described for a considerable period of time, even for months, providing any reasonable measure of improvement warrants delay in operative procedures. The results obtained prove the merits of the method, as considerably more than fifty per cent of all cases are cured or at least sufficiently improved to practically remove the dangers attending the chronic purulent process. Unfortunately the local measures prove insufficient when extensive necrosis exists, and some form of operative treatment must be instituted in order to eradicate the disease.

Two general methods of operation are valuable, either one of which must be decided upon according to the exigencies of the case. The first and simpler operation is the intratympanic (which is performed through the external auditory canal). This operation is also termed ossiculectomy.

The second is the so-called radical operation, which is performed externally by the post-auricular route.

The intratympanic operation or ossiculectomy is simpler in technique, avoids external incision, deformity and prolonged and painful dressing. While it requires much skill and an accurate knowledge of the anatomical surroundings, it is much less formidable than the radical operation.

It is necessarily limited in scope to the membrana, soft tissues of the tympanic cavity proper, the ossicles, tympanic ring and walls.

Nevertheless, it is worthy of trial in cases where it can be fairly accurately demonstrated that the necrosis is confined to these locations. An ossiculectomy skillfully performed, with the curettment of all necrosed areas within reach, will in a somewhat limited percentage of cases effect a cure, and even when a complete cure is not effected the removal of the membrana tympani and ossicles opens a wide channel for the flow of pus from the deeper structures. It is a well-known surgical axiom that large openings into pus cavities materially aid nature's efforts at repair.

I have repeatedly succeeded in putting an end to a suppurative process in the middle ear by resorting to this method of treatment. It is somewhat difficult to define the class of cases upon which it may be employed with a reasonable hope of success on account of the obstacles in the way of positively determining whether the necrotic

process is confined to areas within reach, and yet the history, the amount and character of the discharge, and the intelligent use of the probe become valuable adjuvants in deciding whether or not ossiculectomy is indicated. All patients when advised to submit to this operation should be informed that it may fail to cure and that the more radical operation may subsequently become necessary.

The technique of the intratympanic operation does not properly come under the title of this paper, and enough has been said to indicate both its extent and its limitations. It is less hazardous to the patient, requires less after-treatment, besides being a procedure to which patients submit more readily than to the radical operation. Some elements of danger attend this operation, inasmuch as the necrotic process may have extended to the faucial canal or to the labyrinth in some portion of its ramification. Facial paralysis, therefore, that bugbear of all operations upon the ear may result. Again the forcible removal of granulations which may have their attachment to the exposed dura over the tegmen may open the way for meningeal infection.

These details have been introduced in order that the merits of the intratympanic operation may be compared with those of the radical.

For several years past the radical operation for chronic purulent otitis media has tended to supersede all other measures. Briefly stated, the purpose of the operation is to convert the external auditory canal tympanic cavity, attic, aditus ad antrum, mastoid antrum, and, if necessary, the mastoid cells, into one wide open cavity, aviscerating all granulations and diseased bone, destroying all membranes and muscular tissue, including the membrana tympani and effecting dermatization throughout in the hope that by so doing the ramifications of the disease will be terminated once for all.

The operation is a capital one, requiring extensive dissection in the most complicated bone in the human body. Lying in close proximity to or embedded in the structure are cerebrum, cerebellum, lateral sinus with its ramifications, the internal carotid artery and the faucial nerve.

These are among the reasons why it requires the utmost skill and minute knowledge of the anatomy of the entire locality.

While the operation is extensive the disease is no less so, a fact which is fully proven by the percentage of failures to entirely eradicate the diseased area. Expert knowledge as to the management of venous, labyrinthine and intra-cranial complications is also requisite, for at any time

these complications may appear. The operation was first described by Kuster, with modifications by Stacke, Von Bergmann, and others. American operators almost invariably clean out the entire mastoid cavity in addition to the specific radical work required to take down the separating walls of the various cavities.

The usual mastoid operation is first performed with a posterior incision, retraction of the soft tissues, chiseling through the cortex of the mastoid process, and excavation of the diseased areas in this neighborhood. In order to complete the radical operation a further resection of that portion of bone constituting the postero-superior canal wall from the mastoid antrum forward to the tympanum, together with the roof of the external auditory canal, thus exposing the internal wall of the aditus ad antrum and removing the upper wall of the tympanic attic. In order to accomplish this the membranous canal is pulled forward.

The malleus and incus are then separated and extracted, but the stapes should, if possible, be allowed to remain, except in cases where the purulent process has entered the labyrinth, with a curet the remaining portion of the drum, the entire lining of the tympanic cavity, and large section of the posterior canal wall are cut away, leaving a large opening between the mastoid and the middle ear. With a small sharp curet the eustachian attachment of the tensor tympani muscle is scraped away, with any granulations present, in an attempt to close off the eustachian tube. In washing out the remaining cavity, if the operation has been thoroughly performed, the entire area will be bony. A flap is then made of the membranous canal in order to prevent subsequent atresia, and at the same time to favor the dermatization of the area. Some operators introduce the skin grafts for this purpose. The posterior wound is then closed and the entire cavity packed with gauze. This completes the operation, the after-treatment of which is of great importance. All cleanly measures must be persisted in and exuberant granulations kept away until dermatization is complete, which in successful cases requires from three to ten weeks.

My fellow otologists will note that no attempt has here been made to minutely describe the operation, but simply in a general way to outline its nature and extent. This then is the operation which for the past ten years has been performed almost innumerable times in all the large cities of America, and with varying results. I shall now speak of the dangers attending the radical operation.

The first of these is danger of injury to the facial nerve. If it can be determined that the facial nerve has a healthy bony covering throughout its course one may curet with comparative safety, but often in cases of extensive necrosis, when the external wall of the facial canal is involved, it is extremely difficult to curet sufficiently to remove all diseased bone and at the same time protect the exposed nerve. Blood and granulation tissue obscure the view and only by keeping before one the landmarks and course of the nerve is it possible to prevent injury. The anesthesiologist should watch the patient's face during dissection about the facial canal and warn the operator whenever the eye twitches.

2. The necrotic process will occasionally be found to have involved some portion of the labyrinth, which adds a new danger to the operation on account of the direct pathway to the brain, which has become opened up to the infection. It is often necessary that the necrosed bone in the labyrinth be eviscerated, even though attended with the danger of producing unpleasant after symptoms. The majority of individuals suffering from purulent labyrinthitis probably eventually succumb to the disease, unless by some good fortune or by operation, wide open drainage into the tympanic cavity is afforded. It has always seemed to me that at least in a small percentage of cases the radical opening of the labyrinth hastens rather than retards the fatal issue.

A third danger is found where an old undiscovered encapsulated cerebral abscess is stirred into renewed activity as a result of instrumentation during the operation. One such case happened in my practice, and has been duly reported.

A school boy, age about eighteen, who was nearly six feet tall, weighed 190 pounds, and was a fine specimen physically. He had a profuse discharge of malodorous pus from the external auditory canal which did not lessen after three months of local treatment. The radical operation was therefore performed, and I found the cortex so thick and hard that with the Rongeur forceps we could make no impression upon it, and it was necessary to use the mallet and chisel throughout the operation. The attic tegmen was entirely necrosed and there was much necrotic tissue in the attic. The probe was passed up to the dura which looked inflamed. There was a bead of pus upon its surface which reappeared after wiping away, and the probe passed directly into a large abscess in the brain. I removed a large surface of bone over the temporosphenoidal lobe, and evacuated about two ounces of very fetid pus. The cavity was carefully drained and a cigarette

drain introduced. The chiseling and other instrumentations probably had a bad effect on the walls of the abscess, for in spite of every effort to prevent it, within two days he began to run a high temperature, acute meningitis developed, and he died in about ten days.

A fourth danger lies in the occasional injury to the dura, especially in unskilled hands, with a resultant meningitis.

We must add to the above enumerated dangers which occur in a very small percentage of cases, but nevertheless do occur, the further observation that even when thoroughly performed by the most skillful operators the percentage of complete cures (and by that I mean a permanent cessation of the purulent discharge) is not more than about 65%. Many of the remaining have but intermittent discharge or are victims of reinfection, others throw off cholesteatomatous masses, and still others are victims of further extension of the necrotic process. These results and statistics are gradually accumulating from published reports, and the end results are less rosy than the first enthusiasm seemed to warrant.

On the other hand there are many favorable things to be said. One great benefit accrues even in cases where the drainage continues, and that is wide-open drainage, which favors final healing lessens the tendency to extensive carious disease, and also the dangers of serious complications. With these comments and figures before us the question arises, "Is the operation justified, and has it come to stay?"

I desire to be classed among those who believe that the operation is justified and necessary in a limited proportion of cases of chronic purulent otitis media.

The enthusiasm for the new operation has made the pendulum swing too far, and from the more recent publications of our American otologists it would seem that the consensus of opinion about coincides with that which I have now expressed. I shall now attempt to describe the indications which seem to me to make justifiable the radical operation.

The radical operation is indicated: (1) When a permanent cessation of the purulent process has not been effected by prolonged local intratympanic treatment, combined if necessary with such minor operations as removal of granulations, enlarging perforation, etc. (2) When the cure has not been effected by the removal of necrosed ossicles and the curettment of the middle ear. (3) When acute symptoms of mastoiditis are present. (4) When a sudden cessation of the pus discharge produces vertigo, pain or other unusual symptoms.

(5) The appearance of facial paralysis during the course of chronic purulent otitis media. (6) Attacks of vertigo indicating that the necrotic process involves the labyrinth. (7) In all cases where intracranial or lateral sinus involvement have already appeared. (8) Where there are positive symptoms of cholesteatoma in the mastoid antrum. (9) Where there are fistulous openings in the cortex of the mastoid process or in the osseous canal wall. (10) Whenever extreme depression or other symptoms of disturbed mentality accompany the disease.

The operation is contraindicated: 1. When the purulent process is tuberculosis. 2. In advanced pernicious anemia or albuminuria and in cachectic diabetes. 3. It is usually contraindicated in young children. 4. In all cases where the disease is confined to the ossicles and tympanic cavity. 5. In adults who have scanty otorrhea without odor with improper opening of the drum membrane, behind which are retained masses of secretion. 6. In all cases where it is possible to effect a cure by any of the other methods described.

It will thus be seen that the percentage of cases which should be subjected to the radical mastoid operation is not large, and in actual practice the statement holds true. It is also true that during the past few years too little discrimination has been employed in the selection of suitable cases for the operation. This should in no wise lead us to belittle this most important surgical procedure, for when properly performed upon severe and dangerous cases of chronic otitis media it is the only safe and life-saving procedure known to surgery.

The question naturally arises as to how long local measures should be employed in chronic cases before being abandoned for the radical operation. What may be considered a reasonable length of time for such treatment? It is impossible to establish rules that will hold good for all cases on account of the extreme variations in the character of the disease in different individuals. The general condition of the patient, his freedom from underlying organic diseases, absence of odor or serious symptoms when free drainage exists, should lead one to persist in local treatment, especially when even a small degree of improvement attends the effort. In the simpler cases such treatment should be persisted in for from one to six months before attempting operative interference, during which time all efforts both by local treatment and internal medication should be employed. If local measures finally fail, then the question of the form of operation

must be decided upon. In every instance when it may be fairly demonstrated that the necrosed area is confined to the ossicles, tympanic ring, and even the attic, the intratympanic operation should be performed, even though it may finally become necessary to resort to the radical procedure. There are certain cases where radical operation should be performed without resort to preliminary local measures or ossiculectomy. Acute mastoiditis developing in a chronic purulent ear is an indication for immediate operation without delay of any kind. Continuous and excessive malodorous discharge with extensive granulations, with or without cholesteatoma, is an indication for immediate radical operation. Symptoms of intracranial or lateral sinus involvement call for immediate operation.

My reasons for advising against performing the radical operation in young children are as follows:

1. The disease is rarely of sufficient extent to require it.
2. The disease usually yields to local treatment providing diseased adenoids and tonsils are removed.
3. By establishing free drainage, through a large perforation with well-maintained local treatment, a cure usually results.
4. It is better to place reliance upon these measures aided by the marvelous recuperative powers of youth than to partially or wholly destroy his functions of hearing with all its train of misfortunes to happiness, education, the enjoyment of sounds, musical and otherwise, and finally to gaining a livelihood. I have always opposed performing double radicals in children except to save life.

The radical operation is occasionally followed by fatal results, in the form of meningitis, sinus disease, brain abscess and pneumonia, these not occurring as the direct result of the operation itself, but inasmuch as they occur soon after, it is difficult to disassociate such occurrences in the minds of the laity. I have reported two such cases before the American Otological Society, and in the discussion that followed several members reported similar experiences.

These views represent my convictions, as to the position which should be given to the radical operation in the realm of modern otology, and it is hoped that they are neither too conservative or too radical to meet with your approbation and approval.

A PLEA FOR ENFORCED EXAMINATION OF BACKWARD SCHOOL CHILDREN AND FOR THE TREATMENT OF REMEDIAL CONDITIONS.

CHAS. A. HOUGH, M. D.,
Lebanon.

[Read before the Ohio State Medical Association.]

Perhaps the most valid reason for supporting by general taxation a system of free schools, to which shall be admitted the children of parents who pay no taxes, is the assumption that an attendance in school, either voluntary or enforced, will result in sufficient education to make of those children better citizens, safer and more intelligent voters and will so train and equip them that they will be less liable to become public charges in the future, either as paupers or criminals.

If we grant that school boards, township trustees and the boards of orphan asylums have the right to furnish free schooling and free textbooks to indigent children and that the state may take children from the factories and off the streets and compel them to attend school because their education will be beneficial to the public, it follows logically that those children should be kept, at public expense if necessary, in such condition that they will receive the maximum benefit from such schooling. The public no longer hesitates to isolate and feed and nurse and treat those suffering from contagious disease. Very properly, it furnishes laboratory assistance in diagnosis and expensive serums and antitoxins and other supplies for treatment. This is not charity or paternalism, but hard-headed thrift, done for the public good. The care and treatment of school children should be viewed in the same light.

Educators are well aware that a considerable proportion of children in the public schools do not master the average curriculum in the average time. Many of them are "behind their grades." In an Ohio city having an enrollment of about 42,000 there are now 4500 children, over 10 per cent., who are one year behind the grade in which their ages should place them. Two thousand are two years behind. Eight hundred are three years behind. Four hundred and fifty are behind four years or more, practically distanced in the race. In smaller towns and in the country the proportion of backward children is less, except in localities where the population is largely composed of foreign miners or of others whose intelligence and mode of living are below the

average. The various statistics published probably fail to represent the entire proportion of defective children in the total population, because many backward children are never sent to school, and those who do go for a time become discouraged and quit school earlier than average pupils.

The term defective is sometimes improperly applied to all children who are backward in their classes. Many backward children have no mental or physical defect whatever, their inability to do good work being dependent upon unfavorable home surroundings, insufficient or improper food and clothing, excessive physical labor outside of school or the other extreme, no exercise, and to a variety of less frequent causes. These causes would be discovered by proper inspection of the schools, the scholars and of their homes, and the parents should be compelled to correct them as one of the conditions under which their children will be permitted to attend free schools. If the parents be unable to do so, the state should correct them. Attendance upon the free schools is a privilege, but it implies obligations which parents should be compelled to assume if they are able. If the parents be indigent, the public should assume those obligations. If the state put children into the schools for the purpose of making safer voters and better citizens for its own future advantage, it should properly feed and clothe and house those children if the parents be unable to do so.

Those backward children who are truly defective may be divided into three classes:

1. Imbeciles, who are or should be cared for in the Institution for Feeble Minded at Columbus.
2. Weak minded—children who are behind their grades because of slight mental defect, intellectual processes which are not normally rapid, or in some cases to minds which do not develop at the average age.
3. Those who were normal mentally, but whose intellectual development has been arrested or retarded by physical disease or defect.

The third class constitutes the larger proportion of so called defectives. Their backwardness is curable in proportion as the physical causes are recognized early and are efficiently treated. The effect upon the mind of physical defects is progressive and is perhaps most frequently manifested in arrest or retarding of mental growth. Therefore these defects should be discovered and relieved early. We believe that every child should be examined before it is permitted to enter the free school and should be under more or less constant medical supervision throughout its school life. Slight physical defects may not cause ap-

preciable results until the child is under severe stress in the upper grades. For example, most refractive defects of children are congenital; yet frequently no marked symptoms of eye strain are manifest until the child is in the grammar school or even later. Yet some of these defects are rapidly progressive, and irreparable damage may be done unless assistance is given early. Defective hearing should be improved, if possible, immediately it is discovered. In short, while all minor defects do not require immediate treatment, every school child should be under supervision and should receive assistance immediately it is required. Another argument for the constant medical supervision of schools is the unquestionable fact that no child convalescent from measles, scarlet fever or a number of other diseases should be permitted to re-enter school until its hearing and vision are as nearly normal as possible.

Possibly our schools are not showing results in all respects commensurate with the expense borne by the public. Unfortunately, they fail with the very class which most needs a moderate degree of education, the so called defectives. The bright child will get along, even without any assistance from free schools, but the child who is backward, either because of personal defect or unfavorable environment, is the one most liable to develop into the anarchist, the pauper or the criminal and thus become a cause of constant danger and expense to the state.

It would be good business policy for the state to provide competent and efficient medical supervision of all schools.

DISCUSSION.

DR. MITCHELL, Cincinnati: I think we all recognize the importance of the propositions laid down in this paper. The larger cities have instituted medical examination. They have not obtained what they will in the future, but they are analyzing the physical and the mental status of the child. It will require time to carry this out in the smaller towns and the country districts, but we should work for it, and as physicians we should keep working for it until it is accomplished. It is the duty of the family physician to study the child and advise with reference to the schooling, especially where there are mental deficiencies. I have thought that we do not recognize the duty that rests upon us with regard to advising with reference to children and their education. It seems to me it would be practical in the small towns for the physicians to vote or appoint in turn some one of their number to perform the duty of school inspection, without waiting for it to be carried out by the proper political Parties.

J. J. MOORE: This is an elegant paper, and the thing that strikes me is the smallness of the attendance. Had it been surgical there would have been a volume of discussion. He struck a key-

note that is of vastly more importance than all the surgery in the world. We as physicians are neglecting our duty when we neglect the care of our children, especially in the schools. There is one place the doctor belongs in politics, sufficiently to look after the child. France has instituted a laboratory in connection with the school, and each child is studied in connection with its physical and mental force, and goes through school according to a prescription, and the reports show good results. We here have vastly more wealth and should do even more for our children. We can look after them in the country. I think every physician should take an active interest in this question, by talking among his people at home.

DR. ORMSBY, Cuyahoga: I would confirm what the last speaker has said, because it comes within the special domain of the physician to direct and supervise the rearing of children. One cause of backward children is adenoids and enlarged tonsils. In one school in New York City, for defective children, ninety children were operated on for enlarged tonsils and adenoids, and reports from the ninety, two years later, gave the result that these children were able to do more school work in six months than for two years before operation.

DR. WEITZ, Montpelier: I am interested in this question more especially in the line last mentioned, that is, the care of these defective children as we find them now by the state. Cities have special teachers for these defective children, but in the country there are a great many of these children, and the only place the state has for them is the home for feeble minded. I have been looking after this in my own community and have been making an effort to secure these from our school. These backward children are a hindrance to the best management of the school. In the lower grades it takes them two or three years to get through one grade. They are a menace morally and socially. If we have some institution for the care of these we will render aid for all the children. The moment we speak of sending these children away to the home for feeble minded, we are met with a most discouraging sitting-down upon for intimating that they are feeble minded. We dare not say "feeble minded." Those I have been able to send to that school I have had to say to the school for backward children.

DR. BLAIR, Lebanon: I think we are all impressed with the importance of the subject so well discussed by my neighbor, and are agreed as to the importance of inspection of school children. The greatest difficulty in the way of carrying out the excellent suggestion of Dr. Hough is the manner in which medical officials are usually selected in our and other states. If officers were selected for their qualifications and their fitness for the performance of the duty referred to in the paper, it would be exceedingly desirable; but most medical officials and officials in our charitable institutions are selected on account of political pull and not always because they are the most competent in the community. I am heartily in accord with the recommendations of the essayist.

DR. EMERICK, Columbus: I have been thoroughly interested in this paper and the discussion of it, as I have charge of an institution here, and

I feel there could be a great deal more done if there was more attention given by the family physician to the school children. Of course as the doctor just said, and I do not think he was reflecting on me, as I was not a candidate for the position, politics come too much into the appointment for our state institutions. We have some fifteen hundred. We have a farm here in Columbus of 187½ acres, and another at Morgan of 1675 acres. We have one physician here and one at the farm, and of course the superintendent is supposed to look after the farming and the medical part and everything else. I have been advocating that we should have at least one specialist there. I feel that it needs a good man who understands the eye, nose and throat troubles. It would be quite an advantage to that class of children. We would be very much pleased to have you visit our schools and see what we are doing with these defective children. Children who come there seemingly hopeless cases, where you hardly expect anything of them, are wonderful in their advancement, which is simply done by personal instruction. Of course, we have a less number in each school room than in a public school. We can only have a few at a time, and by giving more personal attention to each individual we find there is usually a possibility of development. I think along some lines we might impress you. We have one of the finest orchestras of young children in the city, and they are defectives too. It is wonderful what can be done for them by giving them the proper attention. But if you speak of sending children to the state institution you insult the family, and I believe the name should be changed from "feeble minded" to the "mentally defective."

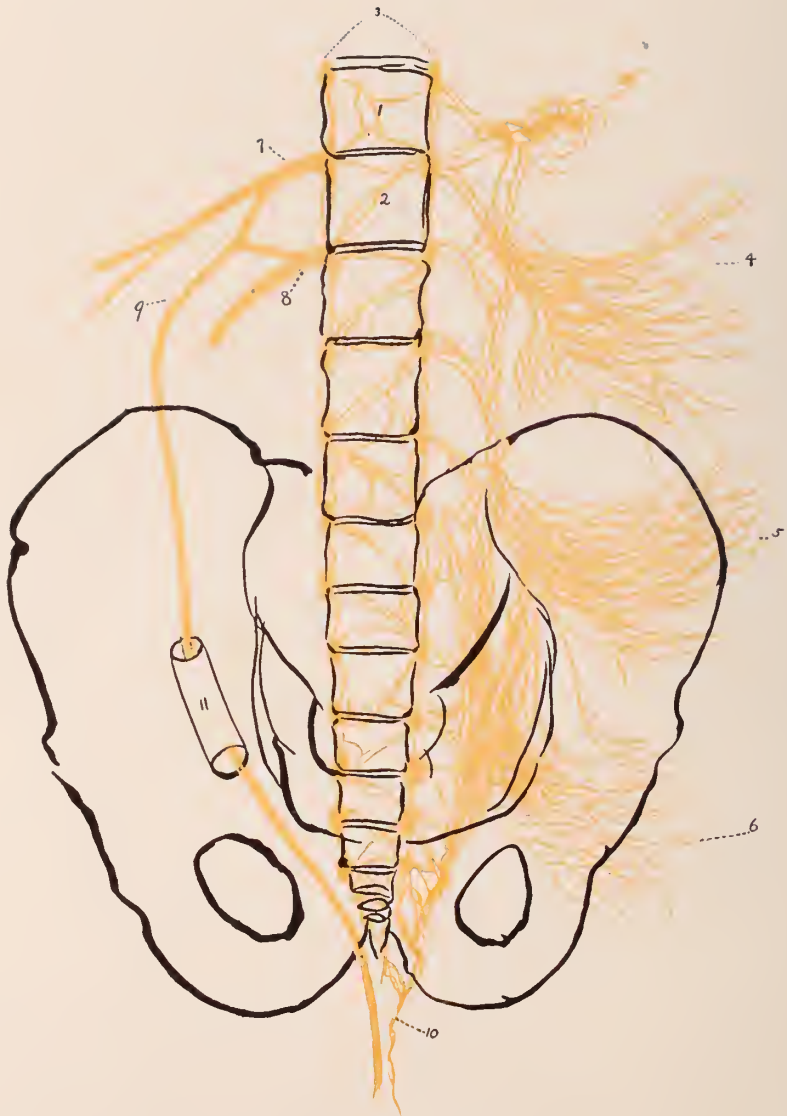
Dr. Adair, Marion: First a little history of what the great and glorious State of Ohio is not doing. I refer to the crippled and deformed. The Legislature preceding the present one made an appropriation of \$150,000 for a home for crippled and deformed children, and there was a committee appointed, and they did nothing. Some were in the northern part of the state and some in the southern and others in the center. So it has hung over until the present session. It went before the House, and an appropriation of \$150,000 made to erect the buildings. The Senate will not consider it for another year.

Dr. Andrus, Marion: I do not want to undertake to add anything to what has been said here, because I think there has been plenty said, but I do feel we may emphasize some things that have been said. We are, as a profession, awake to the fact that these defectives in the special senses of hearing and vision are calculated to interfere with the education of our children. Only a few months ago in Pike county we held our annual meeting, at which time we invited some outside physicians, among them one from Columbus, who read us a paper similar to that we have just heard, in which he made it clear that defectives, especially those brought about by visual defects and impairment of hearing, not only kept our children back in their grade work, but were also great factors in the production of criminals. After hearing this paper, I took it upon myself to notice some of our children in our village who had dropped out of school, and I was surprised

to find the large number that had dropped out through having fallen behind their class through matters beyond their control. I believe if we would take some measures to have such papers as we have heard here today put into reprints and circulated among the parents, it would be a good thing. It would educate them along this line. We cannot do these things until the people demand it. I believe a little work along that line would do more in awakening the laity to the importance of attending to these things than our discussions among ourselves. I believe if we would have these papers circulated it would be a good thing.

Dr. Hough (closing discussion of his paper): With regard to the suggestion made that in the country we might have the inspection of the schools rotate, this would be all right if all physicians in the country were able to make special examinations of visual and other difficulties, but only the man who has had special training in this line has these things at his fingers' ends. Unfortunately, we are trusting too much, in the matter of visual difficulty, for instance, to the parents and the family physician. I know of medical men who actually permit their own families to have their eyes tested at the jewelry store! It is a shameful thing, and a large proportion of the school children in this state today are having their visual defects mistreated in a jewelry store instead of falling into the hands of reputable physicians. A few years ago I corresponded with the State Board of Medical Registration and Examination in regard to the class of cases which opticians should be permitted to examine and treat. I was told at that time that a ruling had been made that opticians, as they called themselves, might adjust glasses for all cases where the use of lenses would bring vision up to normal. The facts of the case are that the very effort by which the child does bring vision up to normal constitutes the eye strain from which it suffers, especially in the case of hypermetropia. It is physically impossible in many cases, unless you use the ophthalmoscope, to determine what degree of hypermetropia you have, or even to detect it without a mydriatic. It is not unusual to find weak concave glasses worn by hypermetropic children who have developed a pseudo-myopia which the jewelry store man attempts to improve by giving concave lenses. He cannot protect himself from his mistake without he does use the mydriatic. The examination should be made by some one capable of making a diagnosis. No attempt was made to discuss in the paper or even to enumerate the many physical defects which cause backwardness in school children. It was designed merely to emphasize the necessity for their early recognition and treatment.

There is difficulty in devising a plan by which we may have all children in the rural districts examined properly. If we come to that Utopian time when we shall have a medical health officer in every county, and if we could join his duties with that of medical school supervisor, it might be possible to pay a competent man sufficient salary to justify him in giving the necessary time for proper examinations. What I had in mind was an inspection of that kind in the rural districts.



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| 1. First lumbar vertebra. | 6. Hypogastric plexus. |
| 2. Second lumbar vertebra. | 7. First lumbar nerve. |
| 3. Gangliated sympathetic cord. | 8. Second lumbar nerve. |
| 4. Superior mesenteric plexus. | 9. Genito-crural nerve. |
| 5. Inferior mesenteric plexus. | 10. Differential plexus. |
| 11. Inguinal canal. | |

SEMINAL VESICULITIS VERSUS APPENDICITIS.

THOMAS GRANT YOUNG, M. D.,
Columbus.

[Read before Ohio State Medical Association.]

It is not my intention to enter into a discussion of the subject of appendicitis, but to direct your attention to the fact that chronic seminal vesiculitis may give rise to symptoms that simulate a certain form of chronic appendicitis. I refer to those cases which begin with a sub-acute or chronic inflammation in the appendix, and in which the patient has never had an attack presenting the symptoms of acute appendicitis.

The prominent symptoms in this form, as described by Battle, Corner and Kelly, are periodic attacks of severe abdominal pain of the character of colic without apparent cause. The pain may be spasmodic, but is generally present in the form of a constant, dull aching, soreness or tenderness in the right iliac region. Functional disorders of digestion are extremely common. Flatulence and constipation are also among the common symptoms. The disturbance in the appendix produces a toxemia which causes general nervousness and mental depression, as well as a general reduction of spirits and health. Kelly remarks: "The clinical picture of chronic appendicitis is very varied, including in its mimicry almost all the chronic diseases to which the abdomen is subject."

In chronic seminal vesiculitis we find a similar complex of symptoms. The general functional and nervous manifestations are identical. Pain is a constant symptom. In seminal vesiculitis, owing to the intimate relationship existing between the nervous supply of the vesicles and the appendix, we may have pain referred along the course of the appendix of the same degree and character as found in chronic appendicitis.

Turning to our anatomy for the nervous connection between the appendix and vesicles, we find the appendix is supplied by the sympathetic through the superior mesenteric plexus. The vesicles are supplied by the hypogastric plexus. The superior mesenteric sympathetic plexus has an intimate connection with that portion of the gangliated sympathetic chord which lies over the origin of the lumbar nerves. As the genito crural nerve arises from the first and second lumbar nerves, the connection between the superior mesenteric plexus and the genito crural nerve is therefore direct. The deferential plexus, a derivative of the hypogastric plexus of the

sympathetic, supplies the involuntary muscle of the spermatic structure. A branch of the genito crural nerve, which supplies the cremaster muscle, accompanies the duct, and thereby gives us a connection between the innervation of the seminal vesicles and the abdominal wall, from which the cremaster fibres are originated. The hypogastric plexus and the superior mesenteric sympathetic plexus are connected by the great gangliated sympathetic chord, so that we have a circular nervous mechanism, which includes the superior mesenteric and hypogastric plexus and the genito crural nerve. Any part of this is connected by a short and direct route to any other part supplied by these various nerves.

From this description you will readily see how pain from diseased vesicles can be and is referred along the region of the appendix.

The following cases have come under my observation:

In 1902 I was consulted by a young man from southern Ohio, twenty-three years of age, slender, naturally quiet and bashful. He had never had sexual intercourse, although he had practiced masturbation to a high degree. Beginning at fifteen, he averaged once a day for the first two years. Imagining that it was hurting him, he cut it down to once or twice a week; later on, to once or twice a month. He continued the practice at intervals of longer and shorter duration until within six months before I saw him. At this period the operation had become so painful that he ceased masturbating. About two years before consulting me he began to notice a slight burning and itching around the scrotum. Following this, he began to have radiating pains down the inner side of his thighs. These pains were transferred to the sacrum, being later shifted to the symphysis pubis. The following year he began to have what appeared to be attacks of intestinal colic. He had dieted and taken various medicinal agents directed toward this apparent bowel affection. His pain later localized itself in the right iliac region, so that he became conscious of continual discomfort in that quarter. Several months before he saw me he had several exacerbations of the attacks, associated with nausea, coated tongue and flatulence.

A medical friend whom he consulted made a diagnosis of appendicitis. A surgeon was called in consultation, who concurred in his diagnosis and urged immediate operation. Gallstones, renal colic and floating kidney were excluded. Patient was prepared for operation the following day. The appendix on exposure was found to be normal and was returned. The incision healed rap-

idly, but the patient's condition grew steadily worse. The pain continued, dyspeptic symptoms increased, and he lost rapidly in weight. Diagnosis of intestinal tuberculosis was made, with unfavorable prognosis. The itching of which he first complained reappeared, becoming acute. Crawling sensations in the skin made their appearance. He developed a general pruritis that words will not describe, involving his entire body. He was a mass of scabs and bleeding surfaces and was unable to sleep.

He was referred to me in the hope that I might be able to afford him some relief and to see if I could account for the persistent pain and tenderness in the region of the appendix. The itching and radiating pains along the inner side of thighs, with history of excessive masturbation, led me to suspect involvement of the seminal vesicles. The stubborn and persistent pain over the appendix perplexed me. Knowing that we have a wide range of reflex disturbance in seminal vesiculitis, I felt encouraged to believe that if inflammation of these ducts did exist, the obscure pain would disappear as resolution took place in the vesicles.

Examination of the vesicles showed them to be distended, without any induration. They were soft and easily compressible. Over an ounce of non-purulent, jellyfied vesicular material was expressed. The procedure caused the patient to feel very faint, although after the immediate effects of the manipulation had passed away he began to experience relief. After a comparatively short period of treatment the vesicles regained their muscular tone, the general pruritis was abated, and the pain in the region of the appendix disappeared. In six months he regained his normal weight, and his dyspeptic symptoms, pruritis and sensory disturbances were entirely relieved. He is now enjoying good health, and is free from all signs and symptoms of chronic appendicitis.

The second case I shall present to you is this:

A gentleman forty-eight years old, while visiting in this city, was taken suddenly with colicky pains on the right side, accompanied with nausea and constipation. For some time past he complained of a dead, aching pain in the region of the appendix, which nauseated him. He found himself drawing up his right leg at night in order to afford relief from the pain. He was extremely nervous, with occasional headache. Skin dark and sallow. Very dyspeptic, his diet requiring constant attention.

This man consulted a surgeon, who made a diagnosis of chronic appendicitis. Operation

within twenty-four hours was recommended. Patient asked for consultation. Another surgeon was called, who made the following statement: "I won't say you haven't appendicitis, but I see nothing to indicate the need of immediate operation." He did not express an opinion as to the cause of the trouble, but in order to keep the case under observation he requested the patient to remain in bed. While nothing new now developed, the pain continued. It was impossible for this man to attend to his business until he could obtain some relief.

The gentleman he was visiting was formerly a patient of mine, and had personal knowledge of some of the manifestations of seminal vesiculitis. He suggested that I be called in to make an examination of his vesicles. Patient gave history of stubborn attack of gonorrhea of fifteen years' standing. Examination of vesicles showed them to be tender, distended and inflamed. Much material, associated with pus and blood, was expressed from them. The case remained with me ten weeks. At the expiration of that time the pain in the region of the appendix had disappeared, and his appetite, general nutrition, nervous tone and digestion were markedly improved. He left with instructions to report at regular intervals for treatment. At the end of this time the vesicles were much improved, but were not restored to a completely normal condition. He continues to report for occasional treatment.

So far as I have been able to discover, no other cases of seminal vesiculitis resembling appendicitis have been reported. From a study of these cases I believe you will agree with me that whenever we meet symptoms in men pointing to a chronic appendicitis the surgeon should acquaint himself with the true condition of the seminal vesicles, as well as other pathological conditions bearing on this subject, before announcing his diagnosis or submitting his patient to an operation.

DISCUSSION.

Dr. Lawrence, Columbus: I don't see that the doctor has left a very large amount subject to discussion. I think the value of the paper, however, is directed to the fact that there may be other conditions than appendicitis giving rise to pain in this region. I think that pain or tenderness alone is not sufficient to warrant a diagnosis of appendicitis or any other one condition. Attention should be directed to the fact that the seminal vesicles and the appendix are frequently in close juxtaposition and to the fact that the seat of pain in seminal vesiculitis is frequently very close to, if not absolutely at McBurney's point. The reference to the sympathetic nerve supply, directly and indirectly, and the cerebro-

spinal nerve supply, all emphasize the value of the suggestion at the head of the paper that no matter what reasons the surgeon may have for determining that an operation for appendicitis, or any other condition, for that matter, is demanded, he must always bear in mind that there are other possible conditions which may give rise to any or all of the symptoms present. I know I have seen several cases in the last few years that I was called in to see and suspected appendicitis and found later to be other conditions. I have seen one or two cases of chronic ureteritis in the past few months that strongly resembled appendicitis; and another thing I want to call attention to, a fact that we have all occasionally seen, where as a result of a local peritonitis the ureter is bound down with more or less dense adhesions, which have contracted. Now, in that case, the simple fact that the ureter is bound down by these dense adhesions does not exclude the possibility of there not being an appendicitis. Any case may have a low, slow form of inflammation of the appendix accompanying it. Take a vesicular inflammation; the manipulation necessary to express the fluid from the vesicles may be accompanied by a low form of appendicitis. It seems to me we must not only be certain that we have normal vesicles, but we ought to be sure that we have no trouble in the region of the appendix. I think one of the greatest troubles about this particular condition is that we look upon the diagnostic signs of chronic appendicitis as being different from the acute or sub-acute. Now, there are two points of importance in the diagnosis; one is the fact that the localized pain is aggravated on pressure; that practically always occurs in appendicitis, either acute or chronic. The other point is that by careful examination we will find that there is a difference in the rigidity of the muscles on the two sides. The right will always be found upon examination to be rigid.

Dr. Hamilton, Columbus: One of the cases which the doctor reports is one which gives absolute value to a suggestion. The very fact that the surgeon was conservative enough not to remove the appendix when it was free from disease. The fever to remove the appendix is so acute—that it ought not to be allowed to go back into the abdomen, no matter what the abdomen is opened for—the appendix is always removed. But the fact that the surgeon was conservative enough in this one case to leave the appendix, and later, after the abdomen had been closed up—after all these things have occurred—the doctor was able to cure this man by proper attention, shows this condition of the vesicles was the causative factor in the trouble.

The nervous arrangement he shows in the diagram is very ingenious, and is a very proper explanation about how pain in this region takes place or is referred. The genito-crural nerve is given off from the first and second lumbar nerves, and the ilio-hypergastric and ilio-inguinal comes off from the first lumbar, which supply the lower abdominal wall, giving us tenderness over the appendix, which might lead us astray in these conditions.

Dr. Steiner, Cleveland: As just stated by the last speaker, one question of vital interest, one thing that is of value in this paper, is the statement that the appendix was returned in this case; that is, still having the appendix, he succeeded in curing his case. But I do not consider in that case that it was good surgery or conservative surgery to return that appendix. In the first place, any one who is at all familiar with these cases knows that very often where he has a case of repeated attacks of appendicitis and operates on it that when he has removed the appendix he will find in it one, two or more ulcers that would not show at all from the outside. The outside appearance shows no inflammatory deposit, and yet he will find these ulcers on the inside, and that appendix will suffer a slight exacerbation of trouble and will discharge itself into the bowel, and immediately thereafter that attack will subside. But the attacks of appendicitis will recur. And therefore in that case I think it was bad practice to return it. But it simply shows in that case the trouble was not appendicitis, but vesiculitis seminalis. I was very much interested in the paper because it shows other conditions may be present, in this case vesiculitis seminalis. While we cannot always bring ourselves to a general diagnosis of appendicitis, this condition is to be thought of. But there are other conditions also to be considered, such as renal calculus and urethral calculus, also a prolapsed or floating kidney.

Dr. Humiston, Cleveland: The trouble in my mind is why we don't have referred pain on both sides, or why we have it on the right side and not on the left. Judging from this distribution of the nerves I would expect the referred pain to be found also upon the left side, and that the absence of rigidity and other symptoms present would aid us in coming to the conclusion as to whether we had appendicitis or not.

Dr. Means, Columbus: There is no question as to the value of such papers. We are all prone to make mistakes in our diagnosis. The differential diagnosis is perhaps the one subject with which we should all be familiar. This paper has cited cases here in substantiation of the points made that makes it quite clear that we may have referred pain that is similar to that of chronic appendicitis. I think that every surgeon welcomes such papers, welcomes the cases that are brought out in such papers and the points that are made. I don't know that there can be any particular discussion upon the points made by the doctor further than to express the value of the points that were brought out. I think that our experience shows that we are often mistaken in opening an abdomen—that is, as to the particular disease that we expected to find, and I think that most general surgeons today always are conservative about making a positive diagnosis as to the exact trouble, and I have been very glad, indeed, to hear this paper, and it will certainly come into my mind when making a diagnosis of chronic pain in the abdomen that we might suspect as being chronic appendicitis.

Dr. Ed. Ricketts, Cincinnati: I think that Dr. Humiston has struck the keynote of the discussion as to why we should not have referred pain on both sides in this trouble. Of course, we look upon appendicitis as not a bilateral disease, and a differential diagnosis between appendicitis and inflammation of the seminal vesicles as described here by the speaker certainly can be made sometimes. The symptoms are certainly different. And I lay stress upon the point made by Dr. Humiston, namely, why should we not have the pain referred to both sides instead of to the right, and why should the vesicles on the right side be more frequently involved than those on the left side? I have often had this condition in mind in operating, and yet I must say I have not run across this condition which has been so graphically described. The diagnosis of appendicitis we know is peculiar; it has a peculiar train of symptoms, and it strikes me that the pain as coming from the inflamed vesicle in the region of the appendix must be a deeper pain. And the condition of the nerve supply that has been described I will admit is closely associated, but I cannot understand as yet why the vesicle on the one side—that is, on the side of the appendix—should be involved and not that on the other.

Dr. Ormsby: I would like to ask Dr. Youmans how often he expresses the vesicles, and whether there was much discomfort manifested by the patient during the treatment.

Dr. Youmans: Replying to Dr. Ormsby's question, the frequency of the massage in the beginning is once in five days or a week. Then, as the case progresses, the time is extended to once in two weeks, and finally once a month. On account of the sympathetic nervous supply, there is apt to be fainting and considerable discomfort during the initial massage, but the patient soon becomes accustomed to the treatment if it is properly administered.

Dr. Humiston and Dr. Ricketts ask why we do not have pain referred to both sides, and why we have it on the right side to the exclusion of the left in the cases reported. In reply I might ask why it is that in acute appendicitis the pain is sometimes referred to the left side, or to the region of the liver, instead of to the usual location on the right side. In chronic seminal vesiculitis either one or both vesicles may be involved. The pain may be referred to any part of the body. It may be on the right or left side, or it may be on both sides. It may be referred to the head or along the course of the sciatic nerve to the feet. Just why the sympathetic system referred the pain to the right side in the cases reported I am unable to explain. Both vesicles were involved. In the second case the trouble was located chiefly in the right vesicle. The cases herein reported do not represent a theory, but simply a condition which I have found by examination and proven by treatment.

Dr. Ricketts: Have you ever had a case on the opposite side?

Dr. Youmans: I have not. I have seen only these two cases. But I have seen one other case in which I suspect this condition prevails. This

man has a chronic, recurrent gonorrheal urethritis, covering a period of twenty years. He had many of the symptoms of chronic seminal vesiculitis and also complained of a dull, aching pain on the right side. His appendix was removed a year ago for the relief of this pain under a diagnosis of chronic appendicitis. Removal of the appendix did not give him relief. I informed him that I was convinced that his vesicles were responsible for this vague pain and advised an examination. He left the city the following day, and I have never had an opportunity to verify my suspicions.

I thank you for the interest that you have manifested in this paper.

GASTRIC LAVAGE THE TREATMENT IN ACUTE GASTRIC DILATATION.

Whether it follows operative procedures or under other circumstances lavage gives the best and often the only hope of saving the patient suffering an acute gastric dilatation.

McNabb (Jour. Tenn. State Med. Assoc., Dec., 1908, page 27), outlines the treatment thus:

"The stomach tube should be used in every case of acute dilatation as soon as the case is seen, as it is of the greatest importance that distention be relieved before other therapeutic measures are instituted. Lavage with warm water containing salt or boracic acid in solution is beneficial, but I would caution against the use of more than two or three pints before its withdrawal, and also against the slightest violence in manipulating the tube when it is in the stomach. The next step in treatment, after emptying the stomach is to put the patient in the knee-chest position, favoring by posture the return of the small intestines to the abdomen from the pelvis, and thus liberating the constricted duodenum from its imprisonment in cases of that nature, and as it is impossible to know whether a given case is caused by obstruction, it is proper that postural treatment be tried in every case. Further than the above two measures, treatment is wholly symptomatic. Nourishment by enema and medication by hypodermic method. If pain is distressing, morphia very cautiously. Lavage for vomiting and distention. Heart weakness demands camphor, spartein, digitaline and strychnine—all by hypodermic needle. For paresis of stomach, eserine salicylate cautiously administered. For other features of collapse, hot normal salt solution into the bowel or by hypodermolysis is indicated."

[The use of the knee-chest position would evidently be unwise in cases of dilatation occurring after certain laparotomies.—Ed.]

OIDIO-MYCOSIS, WITH REFERENCE TO
DERMATITIS COCCIDIOIDES.

A. RAVOGLI, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

The studies of Gilchrist and Busse, Welles, Hessler, Hektoen, followed by those of Hyde

this reason it was called saccharomycosis, and in German Hefenmykose.

Formerly cases of this kind had been mistaken for those of tuberculosis verrucosa cutis or for syphilitic ulcers, especially on account of the tendency of some proliferation of the papillary layer. The diseased skin which was given to Gilchrist for microscopic examination was sent under diagnosis of tuberculosis verrucosa cutis.

This parasitic affection is not limited to the



Fig. I—Oidio-Mycosis.

and Montgomery, have positively established a form of disease due to a vegetable parasite, called blastomyces, and the disease produced by it blastomycosis. The parasite affects the skin and produces ulcerated surfaces in form of tiny little abscesses clustered together. It is easily found in the serum, detritus and in the connective tissues in form of large round bodies with a heavy capsule resembling yeast bodies, and for

skin alone, but invades mucous membrane, the lymphatic glands, and at times it is transferred to the internal organs, with disastrous consequences for the general health.

In the illustration of the case, Fig. I, is shown the condition of the skin of one of our patients suffering for over a year from a patch of blastomycetic dermatitis. The upper flexor region of the right arm is the affected place. The patient

is a robust, strong and healthy farmer, who can say that he has never been sick in his life; no syphilis nor tuberculosis are found in his history nor in that of his family.

He began to notice on his arm just at the cavity of the right elbow joint a limited swelling, with small papules and pustules, forming a patch

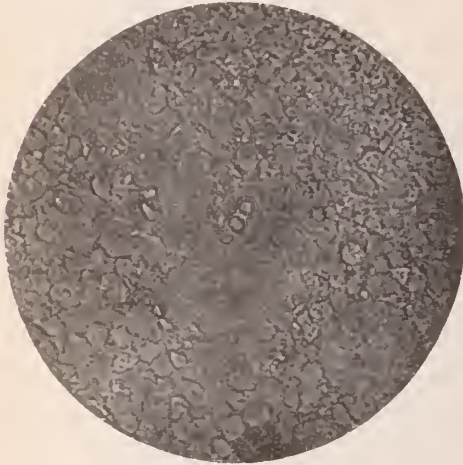


Fig. II.

irregular in size, of a peculiar red bluish color, which caused him an unbearable itching sensation. The patch slowly begun to spread, forming borders, partially ulcerated, and holes in the form of miliary abscesses, oozing sero-purulent fluid. Just at the edge the surface was covered with small warty projections resembling tuberculosis verrucosa, and the whole was covered by thick grayish adherent crusts made up of purulent exudation and epidermis.

In the center of the diseased area the skin has healed up partially, and there remains a thin atrophic reddish scar, and in the same place shreds of skin have been removed, leaving deep excoriations. The affected skin is so badly infiltrated and so affected that with very little effort pieces of skin can be scraped off.

This soft condition of the affected skin, especially at the edges of the area, can be used as a differential character to distinguish the disease from the hard and firm infiltration of the patches of tuberculosis verrucosa, and even more so from those of the epithelioma.

The symptoms of the blastomycosis are so apparent that it is easy to suspect the disease. The diagnosis, however, has to be confirmed by the finding under the microscope of the blastomyces. A small quantity of the pus contained in the small abscesses is spread on a slide, and with a one-sixth objective the blastomyces is

seen. In Fig. II it appears in the form of round bodies of a size from one-twelfth to one-eighth of π , with double contour formed by a heavy capsule, containing in the center a granular substance of vegetable matter. Some are united together, two or three in number, showing that they are undergoing the process of reproduction by budding. The presence of these bodies confirms the diagnosis.

In the center of the abscesses embedded in the derma are found the same bodies contained in a kind of alveoli, which are surrounded by connective tissues. In Fig. III the blastomyces is conspicuous in the middle of a nest representing an abscess, together with pus cells and detritus, and the whole shows the effort of the reaction of the tissues to encapsule the foreign elements.

The same substance taken from the interior of the small abscess was inoculated on Agar maltose in an Erlenmeyer bottle. Twenty-four hours after the inoculation a thin whitish mould has shown on the place of the inoculation, which in a few days has grown as whitish mould covering the whole culture medium and extending around the bottle in the form of yellow felt mouldy vegetation.

From the appearance of the culture, from the mycelium and from the spores arranged in chains, it is clear that the fungus belongs to the



Fig. III.

class of the Oidio, while from the yellow orange color could be called *oidium lusteum*, and the adjective *fetidum* could be added, as the culture has a strong repulsive odor.

The resultant culture examination under the microscope has shown heavy mycelium thread and large spores in chains, resembling the bodies found in the diseased surface.

Other forms of affections related to blastomycosis have been grouped and really can better be called oidiomycosis. Dermatitis coccidioides, which was described by Douglass W. Montgomery, and afterwards by the same Montgomery,¹ Ryfkogel and Morrow, has been rightly considered as different from blastomycosis from a clinical and mycological standpoint.

In dermatitis coccidioides the disease is much more diffused and spreads with more rapidity. In one case which we reported to the meeting of the Sixth International Congress of Dermatology in New York the affection had affected both hands, arms, neck, back of the head, the chin, the nose, both legs, the scrotum and the penis. On the region where the skin is dry the epidermis was hard, thick and covered with crusts. In the places where two surfaces of the skin touch each

handling of fertilizer for the reason that we could see abundant mouldy vegetations due to planting its powder in the Agar maltose.

In the case of Montgomery the patient had slept for a long time in box cars where dirt and animal refuse were accumulated.

In the case which I am presenting to you the man has never used fertilizer, but he is raising sheep and trading in hides. In loading the dried hides on the cars he takes them in his naked arms, and often scratches are produced on the flexion surface of the arm which holds the hide. It seems very reasonable that moulds vegetating on dried animal substances may have found in this way entrance to the skin. Another case of the same kind was seen in the City Hospital in a colored man who had for a long time worked in the sewers, having a pair of mouldy boots on. He came under our service with his legs and thighs covered with innumerable pustules and small dermal abscesses of the same bluish red color. The contents of the pustules under the microscope showed the presence of round spores resembling those of dermatitis coccidioides.

The development of botryomycosis is not dissimilar from the mentioned affections, especially when it takes a chronic course. The botryomyces which is peculiar to the horse is often transmitted to the skin of man in the form of small localized tumors of the granuloma type. In a case we had under treatment the tumors, ranging from the size of hazelnuts to that of English walnuts, were encased in the back of the hand and arms, extending to the periosteum. The disease dated for a period of over fifteen years, and, although it looked somewhat like ulcerated periosteal gummata, yet the long standing of the affection was enough to exclude a syphilitic origin of the affection.

In all these affections the subjective symptoms are limited to an unbearable itching sensation, and the patient tries by producing pain to stop it. The spreading of the disease from one part of the body to another is due to scratching with the finger nails.

All these non-bacterial parasites belong to the class of the fungi moulds. Some are pathogenic, and some may become such, and the diseases which they produce are known under the name of mycosis. Some of these fungi are only saprophytes, and they are not injurious, but a great many are truly pathogenous agents. Sanfelice, Mafucci and Sirleo, Lydia Rabinowitsch, have experimentally proved that some of these yeast elements are capable of producing disease in animals as well as in man. It is possible that all



Fig. IV—*Saccharomyces*.

other, they were found to be thick, bluish red ulcerated surfaces. The ulcers resulted from the conglomeration of small dermal abscesses, oozing a purulent secretion of nauseous odor. The disease started on his hands and arms and then gradually spread to other parts of the body.

The diagnosis was made by the examination of the detritus taken from the ulcerated places, which showed a large number of small round bodies with double contour, resembling coccidia. The same substance inoculated on Agar maltose in the Erlenmeyer bottle gave a white fungus vegetation, containing articulated spores and a strong mycelium. The patient had been a foundry man by trade and used to have his hands in the animal fertilizer which results from dried and pulverized animal substance. We thought we had found a good etiological factor in the

these fungi are living in a saprophytic condition, and that their passing to pathogenic elements is only an adaptation to the conditions in which they are placed. In fact, the parasite of the aspergillois and that of the actinomycosis are found in the saprophytic stage. The location in which they are found indicates clearly how man and animal can be affected by them, coming from the medium in which they are living.

From the culture of the moulds which we obtained from the animal fertilizer we injected a small quantity under the skin of a rabbit, and twenty-six hours later the animal died. At the autopsy of the animal there could not be found any microscopic lesions, but the blood was very dark, fluid and contained the same spores as the mould. These moulds vegetating in the compact tissues do not show mycelium, but they only bud. This is due to the lack of air, which is necessary for their ordinary fructification. We can mention in this regard a peculiar difference in the action of the moulds from that of the bacteria as pathogenic elements. The bacteria affects the organism more through their toxins than through their presence, while the moulds affect the tissues more through their mechanical irritation. Among the mucorinees, according to Podack, the mucor corymbifer must have some etiological relation to the endothelioma. In the same way the presence of a mucorinee must be the factor of the black tongue.

The moulds act as pathogenous elements on the animals, though not so frequently as the bacteria, because they require special conditions for their development. This is the reason why mycoses are not so contagious as infectious diseases, which are produced by bacteria. In many cases the spores of the moulds remain limited in the tissues in the place of inoculation, and by scraping, removing or destroying the infected place it can be brought to recovery.

In other cases the spores may be taken in the lymph vessels and carried to the glands and produce infection, or may be taken up directly by the blood vessels and carried to the internal organs, causing infiltrations, foci of inflammation and abscesses.

When we have the good luck to bring a case of the blastomycosis to recovery, there remains on the locality a thick, heavy scar, the result of the injury done to the connective tissues.

Spores of fungi of the mucedinees kind usually find their entrance to the tissues through injuries of the epidermis. But it is also possible that they find their way to the internal structure of the skin through the follicles of the hair.

They can also be introduced through the mucous membranes; mouth, tongue and pharynx are often affected by oidium. Cases of bronchomycosis, pneumomycosis, mycotic pseudo tuberculosis, have been reported by many authors as the result of aspergillois.

The infection caused by mycosis, in order to spread, needs some circumstances which favor their development. Blanchard² refers that pneumomycoses are found more frequently in birds than in mammals, for the simple reason that the bird is nourished with grains, which are often contaminated with moulds.

The spores alone are the injurious part of the fungi. They enter in the tissues and by budding are reproduced, causing inflammation, infiltration, necrosis and ulceration as a result of their presence in the tissues. A blastomycetic septicemia as a result of the spores in the circulation has been found, and in our case of dermatitis coccidioides and in another of botryomycosis the effects were found in their organism, and death was the result.

In reference to treatment it is difficult to rid the tissues of the spores when they have once found their way of development in their midst. In the case of blastomycosis, the whole patch has been scraped off and dressed with castor oil and balsam of Peru. It seemed healed up perfectly, but the affection has reappeared. The ulcerated surfaces have been touched up with pure formaldehyde, the tissues have been cauterized, have sloughed off, but new points of infection are still showing. The exposure to the X-rays seems at present to have given the best results, and good results were also obtained from it in the case of botryomycosis of the arm and hand. The dressing with a salve containing ichthyol 31 to one ounce of diachylon Hebra has been found very useful.

In reference to the internal medication, we cannot agree on the beneficial action of the iodide of potassium. All our three patients have been fed on iodide of potassium, but we could not see much benefit. We changed to a tonic mixture, with arsenic and chloride of iron, and probably this produced a better effect than the other.

DISCUSSION.

M. L. Heidingsfield: This important paper should not go without discussion. I had the pleasure of listening to a paper on this subject by Dr. Ravogli at the last International Dermatological Congress in New York and afterwards of reading it in the *Monatschrift für Praktische Dermatologie*. The pathological conditions described depend upon the morphological appearance of moulds and saprophytes. It is very gen-

erally known that there are numerous forms of moulds and saprophytes. Gilchrist, Hyde and Montgomery, of Chicago, and others have done some interesting work in this class of cases, and I have been favorably impressed with the clear-cut character of their investigations. Still there is skepticism as to whether these conditions form affections by themselves or whether the moulds owe their presence deep in the tissues to a mere coincidence or a symbiosis. Moulds and saprophytes are always present in the skin. The greatest trouble which the bacteriologist experiences is the contaminations which usually follow when cultures from any surface, skin or otherwise, are made. Only when the most painstaking asepsis is carefully carried out can we be reasonably sure that saprophytic contamination is not present. In all cases where there is a free discharge from an abscess or an ulcer or the surface of skin is broken, conditions are favorable for the symbiotic presence of saprophytes. We should therefore not be too hasty to attribute the etiological importance to moulds of purely morphological character. The presence of a few moulds and the growth of a few cultures do not fulfill etiological requirements, and my personal experiences satisfies me that all ulcerations and abrasions of the skin, associated as they are with moisture, heat and culture media, are favorable for the growth, development and spread of non-pathogenic fungi. We should not be too ready with our acceptance of these cases, else we will soon have an additional affection for each of the hundred or more saprophytic forms, and our already burdened nomenclature will soon assume an exceedingly intricate and cumbersome character. We should not rush to conclusions, and this new field should seek its full confirmation at the hands of the most skilled and experienced bacteriologists before it meets with general acceptance at the hands of clinicians.

A. Ravogli, of Cincinnati: I have not much to say more than what I have stated in my paper. I have seen in the diseased skin those parasitary bodies, and I have shown them on the screen. They were perfectly in accordance with those described by Hyde, Montgomery and Douglas W. Montgomery. When we see these bodies inside of the product of the disease, when we can cultivate them, we are justified in making a special pathologic entity, which we call *oidio mycosis*. We see a difference in the special nosological entities, as it is the *saccharomycetes* and the *coccidia* which produce *dermatitis coccidioides*.

NORMAL LABOR.

W. H. WOODWORTH, M. D.,
Delaware.

[Read before the Ohio State Medical Association.]

To some minds only strange and unusual subjects are interesting. With most of us the common every day duties are most important. He who does the little things, the usual and frequent

duties best, accomplishes most. If I can succeed in impressing upon everyone here, myself included, the importance of performing every duty, little and big, connected with our lying-in cases in the best possible manner, our time spent in considering this common subject will be *well* spent.

I use the term normal labor in its broader sense to mean labor in which there is no abnormality, either with the mother, the child or the position of the child. To my mind a rather *large* child or a rather *small* pelvis or a breech presentation does not constitute the labor abnormal.

So in considering this subject, normal labor, we should have in mind every duty to our patients, from the day we are engaged to attend them to the day we discharge them.

We can, without appearing unprofessional or ungentelemanly, let our patrons know that they should engage a medical attendant early, in cases of pregnancy, and that they should entrust to him all medical duties, including especially the care of the kidneys and bowels. The urine should be analyzed frequently.

We should insist on each pregnant woman having daily exercise, short of fatigue. Walking in the outdoor air is best.

We know the wealthy indolent, who do not need to work, have much more trouble in childbirth than the laboring women who are forced, by dire necessity, to be on the go most of the time.

Many pregnant women pass the whole seven or eight months of *known* pregnancy in *health-destroying* fear of marking her offspring, by the sight of an innocent pig, or a playful pup; or perchance, if the circus comes to town and she does not hide herself away beyond all possible chance of seeing the noonday parade, her progeny may resemble an elephant or a kangaroo. Now, we all know, or should know, that the theory that a pregnant woman can mark her offspring like the elephant simply by glancing at his portly form, is purely superstition. We know that there is no nerve connection between the mother and the fetus, and that a single glance cannot possibly give the child a hare-lip or a nevus. We know that a drunken dog of a husband can, by his brutal treatment, so depress the nervous system of the prospective mother that she cannot eat or sleep well. She cannot digest or assimilate what she does eat. In this way the mother has not the proper blood, and of course cannot properly nourish and develop the child. I think the child of a drunken husband is handicapped from its earliest embryonic life and that the environment of a pregnant woman, whether good or bad, has to do with the development of the child, not directly as

is so often believed, but indirectly, through the only source of nutrition, the mother's blood.

Let us then teach our pregnant women that they cannot mark their babies as is usually supposed; that they must get out of doors and exercise; that they must keep their bowels moving each day, if necessary, by taking gentle tonic laxatives, and that they must keep their kidneys active by drinking plenty of pure water.

As to whether we should make an effort to relieve our patient of all or a part of the pain always associated with child-birth, there is a great diversity of opinion among the profession. Many of the older men object to any interference, and say, "Let nature take its course." I firmly believe that we should rob labor of some of its pangs. This may be done safely and surely by allowing our patient to inhale chloroform during the pain. This can best be done by putting a large handkerchief into a common drinking glass. Twenty to thirty drops of chloroform can be put on the handkerchief and the open end of the glass held over the nose and mouth of the patient during the pain. The hand can be placed over the glass during the interval to prevent a waste of the anesthetic. This method is safe. It allows the patient to retain consciousness so that she may assist nature by bearing down, etc.

I offer this help to all my lying-in patients. Some will not accept it, but most patients do, and express themselves in nine-tenths of the cases as very grateful for such relief as this method gives.

I have not had enough experience with the hypodermic injection of morphine and hyoscine to speak with authority on its use in labor. I have used it in a few cases and I believe that much relief is obtained in the first stage when the pains are severe and little or no progress is made.

Some patients will call us before the pains have fairly started, while others wait until the baby has almost arrived. We should instruct them when to call us. When the pains are regularly intermittent, say about five (5), ten (10) or fifteen (15) minutes apart, the medical attendant should be called. Very severe pains, even at longer intervals, mean that labor has begun and that the doctor should be called.

When called, the physician should go at once. He had better be too early, a dozen times, than once too late.

To the young doctor who has never been out before on such a case, just how to proceed is a very important question. We should enter the lying-in chamber with a pleasant, confidential air,

interested only in the case in hand. While taking time for the patient to feel at home in our presence, we should learn the character of the pains by observation. We should inquire whether the patient has made all preparations, such as protecting the bed, preparing clean white sterile clothes, etc. By this time all present, including the doctor, should feel "quite at home," and a vaginal examination should be made to ascertain whether the pains are true or false. Should the cervix uteri not alter in the least during a pain nor the membranes protrude at all, the pains are false and labor not started. One or two doses of codeine or morphine should be given to quiet the pains and the doctor should go home, giving instructions to call him when pains start up again or their character change.

Should the opening in the cervix admit the end of the index finger and increase during the pain, labor has begun and the patient should be so informed.

It almost goes without saying in this day of surgical cleanliness, that a doctor should never make a vaginal examination without twice protecting the patient against infection. He should first cleanse his *hands* very thoroughly with water and soap and a brush and then immerse his hand with which he is most skillful and with which he is to make the examination in an antiseptic solution, such as carbolic acid (15 to 1 pt.) or corrosive sublimate (1 to 1000).

Vaginal examinations to ascertain the progress should be made occasionally, how often depending much upon the mental state of the patient. If she is nervous and worried, with fears that she will never get through, an examination should be made often to assure her of the progress made. If she is indifferent as to progress and fears the doctor more than the outcome, only infrequent examinations should be made.

The question of rupturing the waters is an important one. The bag of waters forced down into the dilated cervix is a hydrostatic dilator and the best and easiest aid to dilatation. To break the waters, before the womb is thoroughly opened is wrong and greatly prolongs the labor. If nature does not rupture the waters by the time the cervix is fully opened the medical attendant should do so. This enables the womb to empty itself and hastens the progress of labor.

During the latter part of the second stage of labor a closer watch must be kept, and while not much can be accomplished in the way of supporting the perineum, much good can be done by holding the head up, close against the pubic arch.

The patient should be instructed not to bear down just as the head is born. She can only keep from bearing down by panting, i. e., breathing very rapidly.

Should the perineum be torn into the muscles, it should be repaired at once. Silver wire was the old-time suture, but I like a good make of twenty-day chromicised catgut best.

Time will not permit me to mention many points that I would like to hear my audience discuss today, but I must not close without saying a word for the parturient woman's best friend—the life-saving forceps.

There are three common causes of prolonged labor even when conditions are practically normal.

The first I would mention is uterine inertia—simply lack of strong and continual contractions enough to expel the child. For this condition I usually give fifteen (15) grains of quinine, and almost always have the satisfaction of having the pains become efficient in thirty (30) minutes, to terminate the birth in good time. Should the quinine fail to relieve the uterine inertia or should the head be a little too large or the pelvis too small, and the labor unduly prolonged, I very enthusiastically believe in the proper use of forceps.

We should never use forceps while nature is making sufficient progress. Neither should we wait until the continual pressure of the head on the soft parts of the mother has produced sloughing, injury past repair. I wish to repeat that we should use the forceps at the proper time, when nature unduly lags, not too soon, not too late.

It is well to give ergot only after the after-birth is delivered.

The cord should be tied—the womb emptied of the after-birth, which should be carefully examined as to its wholeness, the mother, bandaged and placed in a dry, clean bed. When there is not a trained nurse on the case, the doctor should see that the cleansing and changing are properly done, or better, do them himself.

The medical attendant should always remain with his patient from thirty to sixty minutes, grasping the uterus, occasionally, between the thumb and fingers, over the abdomen to make sure that it is contracted, and that there is no alarming hemorrhage.

In closing, I can only say again that we should give our obstetrical cases our best attention, being kind, patient, firm when need be, hopeful, and cheerful at all times.

THE NON-OPERATIVE TREATMENT OF SQUINT.

CHARLES LUKENS, M. D.,
Toledo.

[Read before the Ohio State Medical Association, May, 1908.]

The principles governing the non-operative treatment of squint may be summed up in a few sentences, but the practical application of these principles would require a volume for complete exegesis. The evolution of the non-operative treatment of squint has been one of the brilliant achievements of ophthalmology. It is the first step in the treatment of every case of strabismus, and when instituted promptly will be the only treatment required in the majority of cases. It will accomplish by physiological means not only the cure of the deformity, but in a large proportion of cases will give single binocular vision and all the advantages which accrue therefrom.

The following etiology will account for most cases of squint, viz.:

1. Anatomical irregularities.
2. Traumatisms and local diseases.
3. Palsies, including congenital squint.
4. Ametropia.
5. Heterophoria.
6. Fusion faculty undeveloped.

In this paper, squint due to the last three causes only will be considered—comitant squint. The weight of evidence at the present time is to the effect that amblyopia of the squinting eye is exanopsia in the great majority of cases, and hence not causative of squint.

Donders¹ formulated two propositions relative to strabismus: "1. Strabismus convergens almost always depends upon hypermetropia. 2. Strabismus divergens is usually the result of myopia." He gave statistics of 172 cases of convergent squint investigated by himself and assistants and found hypermetropia present in 77 per cent. He showed the association of accommodation with convergence; that an accommodative effort sufficient to see distinctly, at say one-half a meter, was accompanied by a corresponding convergence of the two eyes, to make their visual lines cross at one-half a meter, in order that the object might be focussed on the fovea of each eye. In case of four diopters of hypermetropia, it would require six diopters of accommodation to see an object distinctly at one-half a meter, and this additional accommodative effort would be manifested by a strong tendency for over-convergence. Donders believed this to

be the cause of convergent squint, and advised correction of the hypermetropia to cure it. Here, then, is our first great light on the etiology of squint, and Landolt,² writing in 1899, stated that nothing of importance has been added to Donders' discovery.

Claud Worth³ contends that the "essential cause is a defect of the fusion faculty; * * * that where the fusion faculty is fairly well developed neither hyperopia, anisometropia nor heterophoria can cause squint." Heterophoria is treated by most writers under the head of squint, and most observers believe that all squints are preceded by heterophoria (Gould,⁴ Duane,⁵ etc.), both being due to the same cause, but that in actual squint fusion of the images is impossible, and there is the recognized deviation of one eye. In other words, heterophoria may terminate in squint. Worth³ makes a sharp distinction. He states: "Heterophoria is essentially a motor anomaly, and that squint on the other hand is due to a defect of the fusion faculty." He further relates a case of heterophoria passing over into an actual turning—with diplopia, etc., but he claims this was not true squint, a differentiation which many will think not warranted.

The cure of squint consists in establishing binocular single vision where possible, and anything less than this will be a disappointment to the oculist; although fortunately for us, the relief of the deformity is considered a cure by most of our patients and those interested.

Binocular single vision is peculiar to the higher orders of animal life. "It is normally developed in early childhood; * * * is well established generally before the age of two years, and practically always before six."⁶ A few exceptions to this rule will be found.⁷ The early development of binocular vision and the rapid development of amblyopia in most squinting eyes make the early treatment of squint imperative. Little success for binocular vision can be hoped for after the age of six or seven years. Worth's statistics show that 93 per cent. of all cases of squint begin before the age of six years. *The time to begin the treatment of any case of comitant squint is when it begins.* This axiom cannot be too strongly emphasized.

The following data will be desirable in each case of squint treated:

1. Name and age of patient.
2. The approximate vision of each eye.
3. Age at onset of squint.
4. Whether the squint is monolateral or alternating.

5. Whether the squint is constant or periodic.
6. The supposed cause.
7. The angle of deviation.

If the patient be one year old or more, atropin is prescribed for several days, and then the refraction is determined by means of the retinoscope. Lenses which correct the ametropia are then made and carefully adjusted, to be worn during the waking hours. In cases of hypermetropia, atropin may be continued for several weeks to make the child accept the glasses, but usually this is not necessary. In those too young to put on glasses, which will be rare, a drop of atropin is prescribed for the fixing eye every day for several weeks, or until the child fix with the unatropinized eye. This will prevent the formation of amblyopia until the child is old enough to put on glasses. It is surprising at what an early age an ametropic child will accept lenses. Worth mentions the successful wearing of spectacles by a child fifteen weeks old.

In addition to eliminating the over-convergence tendency, refraction gives two clear retinal images, which are capable of fusion under favorable conditions. Dr. Fortin states that "in order that isofixator vision be realized, not only must the central centers where fusion of images takes place be intact, but, moreover, the two small images which are identical and superposable must fall at the same time on the two points of fixation. When the two eyes are sound, I do not believe that it is possible to fuse two dissimilar images, however small they may be, when we allow them to fall at the same time on the points of fixation, * * * although somewhat dissimilar images may be fused when not falling on the fovea."⁸

Experiment: Place a 3 D. plus spherical lens in front of one of your eyes and look at a small light. You have artificially destroyed your fusion by blurring one image, and any heterophoria you may have will at once become manifest by diplopia.

Ametropia, particularly astigmatism, is frequently productive of a vicious extra-ocular innervation, causing marked heterophoria and even squint (or, in the language of Worth, pseudoheterophoria and heterotropia, but *not* squint). This is usually relieved by lenses, e. g.:

Marie W., aged seven; was examined October 10, 1901. Her parents stated that at the age of two they first noticed her right eye turned out, but only for a moment, when it righted itself. This condition had been noticed almost every day since, but the spells of divergence were coming

on more frequently, and she covered her diverging eye with the eyelid. Her trouble was aggravated after attempting to use her eyes in school; she had headaches, was nervous and couldn't see the blackboard.

Her right eye had a vision of 5/25 and the left eye 5/15 of normal. She had hyperphoria 2° and exophoria 6°. Retinoscopic examination under atropin: R. E., — 1.25 spher. $\odot + 2.50$ cyl., ax. 102° v. = 5/10. L. E., — 1.50 spher. $\odot + 2.25$ cyl., ax. 85° v. = 5/10. This correction at once balanced her eyes, and they remained quiet *so long as her frames were straight*. At the present time she has 5/5 vision with each eye and muscle equilibrium.

Before passing from refraction I must quote and endorse Edward Jackson: "The accurate correction of ametropia being the most important single measure in the treatment of squint, and this being most effective in its earliest stage, it follows that no one who cannot measure refraction objectively, no one who cannot apply skiascopy with sufficient accuracy to obtain by it the data for prescribing lenses, is competent to treat strabismus."⁹

As soon as the spectacles are in place, if the case has been one of unilateral squint, measures must be adopted to develop the visual acuity of the squinting eye, which always sees less than the fixing eye. This will be accomplished by compelling the eye to functionate by means of the occlusion pad or blinder to the fixing eye, to be worn continuously for several weeks until the child will fix with either eye when the blinder is off. Where the amblyopia is not more than 6/36 (Worth), this may be accomplished by instilling one drop of atropin solution daily into the fixing eye. This blurs near vision in this eye, and quite frequently the amblyopic eye, which can accommodate for near vision and hence get a sharp retinal image, will be used at once for seeing objects close by, while the better eye will be used for distant vision. As the amblyopic eye regains its visual acuity, it soon is used for distant fixation also. When this is accomplished, the atropin is stopped, or the formerly good eye may become amblyopic. When the eye recovers from the atropin, it will usually be used again for fixation. After this, the better eye should have atropin one or two weeks out of each month until either eye is used for fixation without atropin. Atropin was formerly much used in both eyes to prevent convergence by preventing accommodation. This was largely the practice before the profession had learned to refract by objective

methods. It is still used as an adjunct to spectacles by many good men (Baker¹⁰, and Reber¹¹) and condemned by others high in our ranks (Worth,³ de Schweinitz¹²).

When the patient has acquired the ability to see clearly with each eye, he is next taught to use both eyes at once. This is best accomplished by means of some sort of a stereoscope. The "amblyoscope" of Worth, with Black's vertical adjustment, is undoubtedly the most popular. Following the teaching of Worth, "the favorable time for this is between the ages of three and five, and it is seldom worth while to attempt fusion training after the age of six." The first step is to get him to acknowledge simultaneous vision in each eye. The next step is superimposing these images, and the last step is the fusing of true stereoscopic pictures. When the fusion faculty has been properly developed, it acts as a powerful incentive toward holding the eyes straight and will frequently overcome 10° or 15° of squint left after getting full effect from glasses. The tendency in America is to use the amblyoscope much more frequently and persistently than advocated by Worth, who states that the desire for fusion can usually be acquired in five or six weeks, giving one training per week.¹³

Alternating squint, in eyes practically emmetropic, usually begins before the child is one year old. These cases are generally "due to a congenital total absence of the fusion faculty," and are incurable. Alternating squint, of high refractive error, as a preliminary stage of monocular squint, is usually easily curable, as no amblyopia exists.

Divergent squint of myopia has an entirely different etiology from convergent squint. Lack of accommodation and the excessive convergence necessary to see at the far point, which may be at only three or four inches, together with oblong eyeballs, which have a tendency to accommodate themselves to the axes of the orbits, all act together, with the result that adduction fails, the eyeballs assume the position of rest, and the mind suppresses one image. These cases are usually promptly cured by glasses.

I have an interesting exception to this rule. A man of sixty-five years of age, who is myopic 20 D. in each eye, has a convergent squint of 20°, due to his persistent binocular vision at his far point—two inches. His dynamic convergence has become static, and his age precludes a cure.

How long shall non-operative treatment of squint be kept up? Priestly Smith and Worth

say that when careful measurements of the angle of deviation show no further improvement under non-operative treatment, to operate at any age; Posey¹⁴ will not operate before the age of six, Baker¹⁵ rarely before ten, and Gould¹⁶ never operates.

The results of non-operative treatment will depend upon the age of the patient when placed under treatment and the length of time that has elapsed since the squint developed. A majority treated under the age of six will be cured; Reber obtained 70 per cent. of parallelism under seven years of age. Of those over six years of age and under fourteen, a varying number will get parallelism of the eyes, but few will get true binocular vision, while those over fourteen will be benefited little by treatment.¹⁷ Priestly Smith¹⁸ secured binocular vision of some sort in 28 per cent. of his 200 cases of all ages, treated non-operatively, and A. E. Davis¹⁹ obtained parallelism in 29 per cent. of his cases (all ages) and single binocular vision in 14 per cent. without operation. When all physicians appreciate the importance of immediate interference in every case of "crosseyes," our percentage of cures will approximate 75 or 80 per cent. without operation. Operation in cases of squint is the last resort and cannot precede or take the place of the non-operative treatment; and, in fact, the treatment as herein set forth is frequently necessary after an operation to complete the cure.

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THE OPERATIVE TREATMENT OF SQUINT.

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[Read before the Ohio State Medical Association.]

I was requested to contribute a paper on the operative treatment of squint, and, while I am fully aware that we have already a rather extensive literature on this subject, it has occurred to me that, while nothing new may be added, it might not be out of place for us at this time to take up and discuss some of the phases of this question, and I shall be satisfied if I am able to present the subject in such a manner as to bring about a general discussion.

The character of the non-operative treatment which is most likely to succeed in correcting imbalance of the ocular muscles and how long this treatment should be persevered in in a given instance before resorting to operation are matters of judgment, and each individual case must be carefully considered on its own merits. There are no hard and fast rules to guide one in such matters, and it is better to follow one's own educated common sense in determining when to operate rather than to give too much heed to the dictum of those authorities who have succeeded in weaving about this already complicated subject an intricate web of elaborate theories.

The normal or physiological relations of the ocular movements are of themselves quite complicated, and when, with a congenital or acquired imbalance we have the addition of amblyopia and, as is often the case, a neurotic patient behind the eyes, our task is sufficiently difficult without having foisted upon us some elaborately intricate explanation which often does not explain.

It may, I think, be taken for granted that when a true theory of muscle imbalance is worked out it will be far more simple than those which have thus far been presented for our consideration, and we will then have a clearer understanding of how to estimate in advance our chance of obtaining a good result in some of the more intricate cases.

While a simple case of alternating squint of moderate degree will often yield an excellent result if carefully operated upon by any of the usual methods, there is a large group of cases in which amblyopia, imperfect innervation or what might be termed "neurotic perversity" renders it very difficult to obtain the degree of equilibrium we desire, and, indeed, in some of these cases an

ideal result is out of the question. It is especially these cases of what might be termed "obstinate squint" that I shall consider at this time.

The former class of cases seem so ready to avail themselves of the relaxation effected by a simple tenotomy to re-establish their equilibrium that it is difficult to resist the conclusion that, had these patients at an early age had their refraction properly corrected and a little attention given to fusion training and so-called muscle exercises, they would have corrected their error without operative interference. The latter class, however, those which I have termed cases of "obstinate squint," yield by no means so easily and the experienced operator will be wary about giving an unguardedly favorable prognosis, and will endeavor to impress upon the patient and his friends the great importance of repeated operations and the exercise of great patience.

Once having gained the full confidence of the patient and an understanding on his part of the conditions of the problem in hand, one may look forward with confidence to a fair proportion of satisfactory results. These good results have not, however, in my experience, been obtained by the method laid down in the older text-books, but by a patient effort by means of a combination of tenotomy and advancement, repeated, if necessary, and in most instances divided between the two eyes. The general principle underlying all operations for the correction of squint should be the re-establishment, so far as that is practicable, of a true state of equilibrium between the muscles which move the eyes in all directions. And this, if possible, should be accomplished by a method which leaves the functional activity of each muscle unimpaired. This is a high ideal and, owing to the lack of perseverance of patients and other causes is not always realized, but, if this degree of perfection is our aim and we work patiently toward it, it is surprising how near we may often come to its attainment.

My experience would lead me to make the following general statements:

1. In moderate degrees of squint in eyes both of which have approximately normal vision, one sub-conjunctival tenotomy by Stevens' method on the usually deviating eye will sometimes be sufficient, but generally a better result is obtained by dividing the tenotomy between the two eyes. This method, first carefully worked out and brought to the attention of the profession by Stevens, of making a small conjunctival incision over the center of the attachment of the tendon only about one to two millimeters in width, buttonholing the tendon and dividing from the center

toward each side with the Stevens' scissor, is preferred because it has seemed to me that by this means I am able more accurately to gauge my results by extending the incisions more and more into the lateral fibers of the tendon. This I regard as of great importance, and I determine how far I shall cut by testing from time to time during the operation with the patient in the sitting posture and viewing a distant light while the degree of esotropia, exotropia or hypertropia remaining is measured with prisms.

This method of course yields its best results in those cases in which there is not much amblyopia, but it is often of great service where amblyopia of considerable degree exists.

2. In the higher degrees of deviation, especially when it exceeds five or six millimeters, as measured on the curved surface of the eyeball, an *advancement* in combination with a guarded tenotomy is greatly to be preferred to a tenotomy alone. (Under the general term advancement I include tendon tucking, stitching forward after section and all methods of shortening a tendon or increasing its action on the eye.)

3. Under no circumstances would I recommend the correction of a large deviation by a free tenotomy alone. An apparently brilliant primary result obtained by this method is too often followed, sometimes years afterward, by one of those wandering eyes which haunts the unfortunate operator and teaches him caution for the future.

4. In cases of considerable degrees of esotropia, with amblyopia, and especially if the glass correcting the hypermetropia has only recently been worn, it is best to leave a moderate degree of convergence uncorrected by operation, as the lenses will correct it. In exotropia, on the other hand, a slight over-correction is sometimes advisable.

5. If there is any vertical deviation, it is best to correct it by tenotomy or advancement before operating on the lateral recti, though moderate degrees may often be satisfactorily corrected by weak prisms, base up or down as the case may be.

As for the operation to be selected, it is probable that some one form is the best, but there is certainly much latitude allowable as to method, provided the work is neatly and thoroughly done.

My own preference has for many years been for advancement by means of a special form of tuck, or fold, in the tendon which I propose to describe. First, however, it may be well to discuss some of the more important points to be considered in this operation.

Above all things we should aim to be exact in the amount of shortening we effect, and have rea-

sonable assurance that there shall be no relaxation such as not infrequently followed the earlier forms of advancement, and in the second place it is very desirable that the tendon at its new point of attachment shall be well spread out and accurately applied to the scleral surface and in such a manner as to make the same even traction upon the sclera at its margins as was made before its detachment.

A study of the earlier operations and of the many efforts to improve upon them will soon convince one that great difficulty has usually been experienced in fulfilling these two conditions. All manner of unusual and ingenious devices have been resorted to, most of which involve the use of some complicated suture designed to avoid slipping back of the treacherous half-frayed-out end of the tendon, or they include some cleverly-devised pulley by which the tension is to be kept evenly distributed between the two edges of the tendon. In many of these plans the effort to anchor the sutures and insure against slipping back results in so folding a portion of the tendon as to prevent accurate apposition with the sclera. There is no doubt in my mind that a careful and skilled operator may obtain a good result if he will take sufficient pains with any one of several of the great variety of operative procedures that have been described, but the question for our consideration is how shall we obtain uniformly accurate results by the least complicated method?

The operation for tucking and advancing the tendon was described by Dr. J. E. Colburn in the *Ophthalmic Record* of April, 1902, and without knowledge of this description it was adopted and described by Dr. G. C. Savage in the *Ophthalmic Record* of November, 1903.

I have no desire to take part in the discussion of the various claims as to priority in making use of any method of operating, or to insist upon the superior merits of my instrument, but for a number of years I have found a modification of this plan most satisfactory. I first practiced it by using a broad tenotomy hook and Prince's forceps, but I later devised the little triple hook which I now present to you, and which was described in a paper several years ago. By means of this hook, one may gauge very accurately the exact amount of shortening desired and at his leisure may insert simple sutures which will render slipping back impossible. After suturing the tendon, I formerly allowed the fold to stand or, in some instances, even excised it to avoid the small elevation, but in June, 1904, Dr. Henry Dickson Bruns, of New Orleans, described

in the *Medical Ophthalmic Record* an ingenious suture by means of which the folded portion of the tendon could be drawn down in close apposition with the sclera and even drawn forward so as to increase the shortening effect of the original fold, and his suggestion has been very valuable.

The plan which has yielded me most excellent results is as follows:

A vertical, conjunctival incision ten or twelve millimeters in length is made slightly anterior to the line of insertion of the tendon and the conjunctiva separated from the underlying tissues forward almost to the cornea, and backward for a distance corresponding to the length of the desired advancement, care being taken to leave the capsule undisturbed over the tendon. An ordinary strabismus hook is then inserted beneath the tendon, which is raised and incisions only as long as the desired advancement are made at the upper and lower border of the tendon. The little milled head having been turned so as to lower the central hook between the other two blades the central hook is passed beneath the tendon in place of the ordinary tenotomy hook, and by again turning the milled head in the opposite direction so much of the tendon and overlying capsule as is desired is drawn up on the central hook between the other two. If an assistant is not at hand, the handle of this hook may now be detached, and the sutures inserted. Of these I employ three, the lateral sutures interlocking with the central one to form a firm seam across the tendon. The milled head is now turned so as to release the fold and the hook is withdrawn.

At this point, Dr. Bruns makes use of a thread which is passed through the loop of tendon (by means of an eye which he has made in the central hook, drawing the thread into the loop as the hook is withdrawn), and by a somewhat complicated pulley suture, with insertions above and below the cornea and through the posterior lip of the wound, draws the tendon fold forward and in tying closes the conjunctival wound. His plan of drawing the fold forward in contact with the sclera I have found a most excellent one, and I consider that it has given great certainty to the results obtained, but I believe I have obtained fully as satisfactory results by simply drawing the fold forward and securing it with interrupted sutures. The row of three sutures in the tendon need not be of heavy silk and should, of course, be tied on the side away from the cornea so as to facilitate their removal, which may not be necessary for many weeks. The conjunctival wound is closed with the finest silk and these sutures are removed in a few days.

A slight elevation remains for some weeks, but it is surprising how soon it becomes inconspicuous.

I have tried a number of plans of advancement, but after several years' experience this method has been by far the most satisfactory.

The operation I have described accomplishes mechanically what we aim to accomplish, namely, the shortening of a tendon, and, with or without a guarded tenotomy of the opposing tendon, brings the visual axes, at least approximately, into the desired position of parallelism, and what is more, it produces a result which is generally permanent and positive and not subject to the inconsequential and disconcerting variations which are so characteristic of the older operations in which an extensive tenotomy, with its defective reattachment of the retracted tendon, or an imperfectly performed advancement with sutures only partially anchored in the subconjunctival tissues or cutting out of the loosely-woven tendon, results in a few months or year in partial or complete failure. But while this may, and often does, bring about a cosmetic result which satisfies the patient and his friends, it sometimes fails to do even this and, in a large proportion of our more complicated cases, if we employ exact methods of observation and study the eyes with care, we will discover that the apparent parallelism is only apparent and that we have produced by no means the state of muscular equilibrium at which we have aimed.

If you will each of you endeavor to forget those simple cases of uncomplicated esotropia of moderate degree in which, after correcting the refraction error, you have by a guarded tenotomy brought about an ideal result which canonized you in the minds of the patient's grateful friends, and will try and forget your proud achievements and look backward over the records of your cases of what I have termed "obstinate squint," and will study the final results obtained, you will, if you have not been more fortunate than many of your friends, find much to be desired.

That case in which, after a perfect tenotomy or carefully performed advancement, which at the time you thought had produced an entirely satisfactory result, on testing with colored glass and screen moved from one eye to the other, exhibits a perverse tendency to roll upward, inward, outward or downward with an exasperating torsion which tries your soul, and, if you will study it patiently with prisms, phorometer and Maddox rod, and make careful records of all the things it will do, you may fill pages with the results of your scientific observations, pages which owing

to the brevity of human life, it is ten to one that neither you nor those who come after you will ever care to read.

I have sometimes had this disheartening experience when for my own satisfaction I have applied a few of our simple tests to the eyes of a patient who, owing to the cosmetic improvement obtained, as a result of an operation has returned to express her gratitude for what I have done for her, gratitude for a result which while effecting some improvement, is so far from ideal as to leave me grinding my teeth with a sense of defeat and disappointment. Are there not others among you who have had such an experience?

Gentlemen, this is empirical surgery and should we in the future master this subject, as we hope we may, we would probably look back upon many of the carefully-devised operations, on which we must now rely, as ingenious devices intended to meet conditions which, when understood, may be met in a much more skillful and effective manner.

A beginner in this field of work must grope for a number of years, even though he has studied the standard text-books with care, for, while they describe methods of examining for phorias and tropias and tell us more or less of the effect of hypertropias in influencing the exotropias and esotropias, there is a connecting link which is missing and operations directed merely against these tropias do not, in the trying cases I have described, accomplish all that is required of them. I am impressed with the fact that our text-books show great weakness in their manner of dealing with this subject.

It is not sufficient to devise ingenious methods of operating, important as that may be, but we must know more of the inter-relations of the muscles in these cases of irregular and distorted movements of the eyes, and be able to reach the source of the trouble instead of crudely striking at the effect.

A long step in the right direction was taken when we learned the importance of operating by tenotomy and advancement upon the vertical recti muscles and correcting the hypertropias before attempting the correction of the esotropias and exotropias. And in this field we learned an important lesson when we were taught to take into account the plane on which the eyes must work in each individual case, and, generally speaking, to avoid tenotomies of the inferior recti muscles. An advancement of an inferior rectus, if it is to be interfered with at all, or a guarded tenotomy or advancement of a superior rectus when that is practicable, should precede operations on the interni or externi if there is any hypertropia.

Much of what is now generally accepted as most exact in our use of terms describing these conditions, most of the best instruments employed in operating where nicety of adjustment is called for, and many of the theories upon which our more exact knowledge of this subject is founded, are the result of years of patient study and untiring effort on the part of George T. Stevens, of New York, and we owe him a great debt of gratitude for what he has taught us.

Unfortunately the intense enthusiasm which has made such labor and such results possible has led Dr. Stevens at times to make some claims for his theories which the more conservative members of the profession have been unable to verify. Unfortunately for personal or other reasons which are foreign to the subject in hand, antagonisms which have been excited have seemed to prevent many members of the profession from accepting the good and leaving the questionable in the work of this ingenious operator. Many years ago some discredit was thrown upon our profession by an inordinate zeal for so-called "muscle clipping" which had its initiative with Dr. Stevens and his over-enthusiastic disciples, and those of us who try to be moderate and conservative in our methods felt like withdrawing from a contest in which there seemed to be an element of sensationalism. Undoubtedly our professional confreres in New York could tell us many things of interest regarding the contest which was waged over graduated and partial tenotomies and the merits of Dr. Stevens' work in general, but whether the discussion of the more personal phases of the subject would or would not be profitable is, perhaps, open to question. At all events, much of it is ancient history and we are far enough removed to endeavor to take an impersonal view and concern ourselves only with the important question of how far the system developed by this assiduous and masterful worker is in accordance with the facts as we know them.

Certain it is that in a field in which most of our writers and teachers have signally failed, Dr. Stevens has in the past given us great assistance, and certain it also is that for some of the most intricate and vexatious practical problems in this branch of clinical surgery he has offered an explanation which, if true, should afford us still greater assistance.

Are his theories of anotropias, katotropias and declinations and the conclusions he bases on them capable of demonstration?

If so, we should be able to demonstrate them and make use of them in our practical work.

DISCUSSION.

A. R. Baker, Cleveland: In regard to the first paper, in discussion of this subject some time ago I was asked by Dr. Risley how old a child should be when you put on glasses for squint. I made this answer: Any child old enough to squint is old enough to wear glasses. This has been my practice. Of course, I do not mean babies a few weeks old who always roll their eyes about; but any child old enough to have a concomitant squint is old enough to put on glasses. I have put them on several cases at nine months, many at a year, and very many before they are eighteen months old, and it is in these cases that we get the most brilliant results. In these children, if examined carefully, many of them will be found to have five to eight diopters of hyperphoria. It is surprising how rapidly it will decrease, often three or four diopters in a few months. In the vast majority of these cases you will have a perfect cure and secure binocular vision.

As to the age for operation, I still very seldom find it advisable in my practice to make a tenotomy or advancement before ten years of age, and even at that age I do not attempt to make a complete correction. Because so frequently at ten years if you correct the full amount of convergence you will find as the child grows older you will have a divergent strabismus. I saw a case day before yesterday in a girl of eighteen. I had made a careful tenotomy when she was ten years old. I only corrected about half the amount of convergence, and yet she now has a divergent strabismus that will necessitate advancement again to correct it. So that it would have been better in that case to have postponed the operation.

As to the advantages of advancement and those of tenotomy, I should say that in children from ten to fifteen years of age I generally prefer a tenotomy, not to correct the whole error, but simply to assist a little in effecting the cure by muscle, exercise by the use of prisms, amblyscope and all things of that kind. In adults in nearly every case I give preference to advancement, or in many cases a combination of both. For many years I have used Dr. Clarks' admirable little instrument, and it is an ideal one. I must confess that in many cases while the immediate results are satisfactory they are not always permanent and have returned, at least partially, to the condition they were in before, especially in cases in which I did not make a tenotomy of the opposing muscle. So that in my practice at the present time I am going back to the advancement operation. My idea has been that in making a tucking operation that your attachment to the eyeball is in the same place it was originally, and you do not get that advantage that you do in advancement over the tenotomy. If you advance your muscle very slightly it immediately gives advantage to that muscle. It has got a better leverage. I am inclined to think this operation suggested by Dr. Clark today will overcome that objection. Your pull is better than by the old operation, and if that is true it is a better operation than the advancement, because you have trouble in getting the stitches to hold, and when they do not you

leave your patient worse than before. It is one of the most difficult and most exacting operations to make an advancement and get the best results. The two papers we have heard today should be of great service to all of us, and we should all take home the useful lessons and put them in practice.

L. R. Culbertson, Zanesville: I was very glad to hear Dr. Clark pay such a splendid tribute to Dr. Stevens, whom I consider the great master mind upon the line of muscle operation. He studied out the question of declination or cyclophoria, and one reason he was so severely censured a few years ago and since is because it was previous to the time of the discovery that a declination is due to the faulty development or tilting of the orbit. The bony cavity instead of being level is declined from the perpendicular; or, points upward or downward from the horizontal plane, and before he discovered that his operations were of course faulty because he did not know the principle of declination, and of course his operations were not all successful by any means. He was severely censured by the nerve specialists as well as by ophthalmologists.

His extensive work in examination of skulls led to the discovery of the cause of declination.

Since the discovery of the principle of declinations the majority of his operations have been successful where he has been able to carry them to completion.

If the bony cavities are declined the muscular attachments must be off the perpendicular, and Stevens devised the operation of placing the muscles in new positions, either above or below the horizontal, and to the right or left of the perpendicular in order to give the eyes better motion; instead of drawing them straight in, it was to draw them in and down, or down and out, according to the form of declination (producing a wheel motion or torsion, so to speak).

As to cutting off pieces of the muscles, I heard Dr. Stevens say: "These muscles should never have pieces cut out of them or be tucked. God intended they should be just so long and no shorter."

In regard to the operation for squint, in cases suffering from declination, in operating on, or cutting the tendon, allowing the eye to roll out, you may do the patient a great injury. The eye may be squinting to assist its fellow. Say the left eye is squinting. There may be a plus declination on the right eye and there may be a plus declination on the left eye, which is suppressed, and the eye turning in instead of out in order to assist its fellow and have the object on the perpendicular and to keep them parallel; and instead of cutting that muscle and allowing the eye to roll out, do an advancement on that muscle and make the eye apparently draw in more, but rotate it to the perpendicular.

Stevens has found in many cases on correcting the eye in which there is the greatest plus declination, after the plus declination has been entirely corrected, the other eye that is squinting will roll out and decline outward. He then operates on that eye to overcome the plus declination. It may require operations on all four of the muscles of each eye in order to bring the eyes to the horizontal or vertical plane.

In operating, he uses the phorometer in setting his stitches, but he relies on the clinoscope for accurate adjustment.

Dr. Burke: I would like to ask Dr. Clark a question, as to whether or not the time of removal of the stitches, say two or three weeks later, minimizes the good results of the operation—interferes with it?

C. F. Clark: Not with my method. I did make the mistake for a time of tying sutures on the side toward the cornea, and having to cut through the fold to remove the threads when that became necessary, but I have never known the muscles to retract.

Charles Lukens: I would like to ask Dr. Clark a question. I think he says he always removes these sutures. They were buried, were they not?

Dr. Clark: Sometimes; sometimes not.

Charles Lukens: Why couldn't a chromocized catgut be used and left in these cases. How often do you have to remove the stitches and when?

Dr. Clark: I have always been afraid to use catgut in these cases because I could not find any fine enough that would hold, and did not know how soon it would be absorbed. I have always depended upon silk. You can take the sutures out or leave them alone. Many have gone ten or fifteen years without harm. Others which have caused irritation have been taken out. Usually it is not till after a great many weeks or months. I do not disturb them at all if I can help it.

In answer to Dr. Baker that this gives a better leverage I think that is a mistake. I do not think this binding down the fold gives any greater purchase. My idea is to get a firm and accurate union of the tendon accurately in apposition and in the position it occupied before the operation. I do not claim much for this operation except this one point of being able to secure what you gain by your advancement.

In regard to what Dr. Culbertson says, I wished to excite discussion on Dr. Stevens' methods. I know what a trial this subject has been. Yet he has done much and we as a scientific body have to deal with the theories which he puts forward. It is up to us to find out whether he is correct or not.

HOT APPLICATIONS FOR EARACHE.

"Don't pour hot oil into the ear to relieve pain. Heat can be applied much better in a hot mixture of glycerine, alcohol and water, which will not turn rancid or clog up the ear, and can be removed by syringing with water. A towel or large pad of gauze wrung out in boiling water and closely applied over the ear, covered with oil silk or 'protective' rubber tissue, is better than a hot water bag."—American Journal of Surgery.

[A drop or two of hot honey, heated on a bit of paper over a lamp, is often used successfully by the laity. The physician, if called, should make sure that paracentesis is not needed.—Ed.]

PUBLISHED MONTHLY BY THE OHIO STATE MEDICAL ASSOCIATION

In arousing the medical profession to a sense of its duty, and through it awakening public sentiment which played no small part in the result, the efforts of one man stand out preeminently, and for our vindication and the "saving our face," to quote our oriental friends, we owe a debt to Dr. C. A. L. Reed which cannot be computed. Alone at the outset, and at no time receiving the united and hearty support he merited, he fought our battle, unselfishly, at great cost to himself, sagaciously, but with dignity and compelling the respect of his adversaries. Had there been a little more time he might well have won the coveted prize of election to the Senate, but, be that as it may, he did accomplish great results. He contributed largely to the defeat of For-

aker, and he made the political organization "sit up and take notice." The echoes of this struggle will long resound in our midst, and in our self-congratulations let us always be proud of the campaign of our distinguished colleague, C. A. L. Reed

PROPOSED OPTOMETRY LEGISLATION.

A bill has been presented to the Legislature to provide for the practice of optometrists in Ohio, as predicted by The Journal in the August number of last year. This bill, Senate Bill No. 3, is given in full on page 98, and the attention of our readers is urgently directed to its careful consideration.

This bill is a distinct infringement upon the state medical act and as such should be absolutely objected to and opposed by the medical profession as a unit.

The Legislative Committee will do its utmost to preserve the integrity of the existing law, but seeks the co-operation of every member of the State Association.

Senator Thomas A. Dean, of Fremont, introduced the measure and acts as its sponsor. On the second reading the bill was referred to the Committee on Medical Colleges and Societies, and a public hearing of the arguments for and against the proposed law has been set for February 16, at 7:30 p. m. This committee is made up as follows: D. F. Mooney, chairman, of St. Mary's; N. O. Mather, of Akron; Thorne Baker, of Cincinnati; C. H. Keller, of Toledo; W. N. Shaffer, of Paulding, and H. M. Cory, of New Washington.

This is an unusually intelligent committee, being made up of four lawyers, one merchant, and one real estate broker. The attention of our members who may be acquainted with the above named, and especially the constituents of the mem-

bers of this committee, is particularly directed to this opportunity for aiding the Legislative Committee by presenting personally the objections to this bill and showing how it infringes upon the medical practice act; the latter having been enacted primarily and solely for the protection of the public, any infringement such as this proposed bill will lead ultimately to utter destruction of the present medical law, to the jeopardy of the health interests of our state by the lowering of medical standards and demoralization of the efforts to regulate the practice of medicine.

Remember the makeup of this committee, and remember the date for the public hearing. Communicate at once with the committee members. Personal interviews will accomplish a great deal, but if this is not possible write or telegraph your views.

HYPNOTISM AND CRIME.

We are glad to note that the public press comments on the recent Carmichael-Browning tragedy in Michigan show a much better understanding of the relation, or rather the lack of relation, of hypnotism to crime. It will be remembered that in the confession left by Carmichael the latter stated that he committed the crime to escape from the hypnotic influence exerted by his victim, Browning. In all probability the confession was written in anticipation of arrest and to be used in his defense when placed on trial. It may have been, and probably was, the irresponsible effusion of a disordered mental condition, but on the other hand in view of the popular insanity plea nowadays, of which he planned to avail himself, it may have been cunningly conceived as a basis for such defense, or a clumsy effort to hide behind an old popular fallacy. The more intelligent classes understand more about hypnotism now than formerly, and

know that it is not a mysterious power possessed by especially endowed individuals by which they may go about compelling people to do things against their will. They know it is not an unnatural state in which the hypnotized is completely subservient to the will of the master mind, and from which he may not awake save at the latter's command.

They know that while obedient in minor matters, and performing sometimes foolish acts, yet the hypnotized person will successfully resist suggestions which are repugnant to his moral nature or repulsive to his normal state of mind and moreover that on the awakening, so-called, the subject remembers nothing of the acts performed.

As has been recently stated, hypnosis is not a state of sleep, but rather an artificially induced condition of "absent mindedness," in which an individual acts automatically and apart from his own conscious volition. Carmichael would have quickly fallen down in his defense scheme, as ordinarily well informed people would have recognized the falsity of his claims in that had he really been hypnotized he would not have remembered any of the alleged facts. It has been some years since any such claim has been given serious consideration, but fifteen years ago in a notorious murder trial in Kansas of this sort it led to a grave miscarriage of justice. In that instance Thomas McDonald was arraigned for the murder of one Patton; in his defense McDonald pleaded that he had been influenced hypnotically by Andrew Gray to commit the crime. McDonald was acquitted, while Gray was convicted and sentenced to death.

Such a result would be impossible today, and any such attempt as Carmichael should serve merely as an opportunity to carry on our propaganda of education among the laity.

EDITORIAL NOTES

78th GENERAL ASSEMBLY, EXTRAORDINARY SESSION.

S. B. NO. 3—(Mr. Dean.)

A BILL—TO REGULATE THE PRACTICE OF OPTOMETRY.

Be it enacted by the General Assembly of the State of Ohio

Section 1. The practice of optometry is hereby defined to be the employment of any means, other than the use of drugs, medicine or surgery, for the measurement of the powers of vision and the adaptation of lenses for the aid thereof.

Section 2. The penal provisions of this act, as defined in Section 10, shall not apply, or be construed to apply, to physicians or surgeons lawfully entitled to practice medicine or surgery under the laws of this state, nor shall they apply to persons who sell spectacles or eyeglasses on prescription from a physician or surgeon or duly qualified optometrist, as hereinafter provided, nor to dealers in spectacles and eyeglasses who neither practice nor profess to practice optometry.

Section 3. There is hereby created a board, to be known and styled the Ohio State Board of Optometry, to consist of five members to be appointed by the governor within thirty days after the passage of this act, one to serve for the term of one year, one for two years, one for three years, one for four years, and one for five years, and annually thereafter one member of said board shall be appointed by the governor to serve for the term of five years. Vacancies shall be filled in the same way for the unexpired term. Immediately after the passage of this act, and whenever the term of a member is about to expire, or a vacancy occurs in the membership of said board, the Ohio Optical Association may nominate and certify to the governor the names, double in number of those to be appointed, of reputable persons who have, for the period of five years previously thereto, been actively engaged in the practice of optometry, from which names, or from other persons with like qualifications, the governor shall make said appointments.

Section 4. Said board shall meet annually on the first Tuesday in June and organize by the election, from its members, of a president, secretary and treasurer, who shall hold their offices for the period of one year. It shall hold additional regular annual meetings on the first Tuesdays of October and February, and such other meetings at such times and places as it may determine.

Section 5. Every person desiring to commence or continue the practice of optometry after October 1, 1909, and be registered as an optometrist, shall file with the secretary of the Ohio State Board of Optometry, upon blanks to be by him furnished, an application, duly verified, stating therein that such applicant is more than twenty-one years of age, of good moral character, has completed the equivalent of two years in a high school and has studied at least two years in a registered optometrist's office, attended a course of optometry covering the period of not less than six months and graduation from some school of optometry approved by the board, has practiced optometry for not less than two years under the

supervision of a registered optometrist, or shall have practiced as a registered optometrist for two full years outside of this state, and shall present himself before the board and submit to an examination as to his qualifications for the practice of optometry. If it be satisfied that the person so presenting himself for examination is possessed of the necessary qualifications and passes a satisfactory examination, the board shall issue to such applicant a certificate authorizing him to practice the profession of optometry and place his name upon a register to be kept of those who have successfully passed the examination and received the certificate herein provided for. Provided, however, that any person who shall have been continuously engaged in the practice of optometry in this state for more than two years next prior to the passage of this act, shall be entitled, upon the submission of proof, satisfactory to the board, of character, competency and qualification, to receive a certificate without further examination, but no person shall be entitled to such certificate who does not make application and present his proofs before October 1, 1909.

Section 6. The board shall charge and collect for the issuance and registration of certificates the following fees: For the examination of an applicant, twenty dollars; for the issuance of a certificate of registration, five dollars. If an applicant be rejected, he shall be entitled to be admitted to another examination occurring not less than three months thereafter, without the payment of a further fee, but for all subsequent examinations, which shall not occur at intervals of less than three months, he shall pay an examination fee of five dollars. All fees shall be paid in advance to the treasurer of the board, and by him covered into the state treasury monthly, to the credit of a fund which is hereby appropriated for the use of the Ohio State Board of Optometry. The compensation and expenses of the members and officers of the board, and all expenses proper and necessary, in the opinion of the board, to discharge its duties under and enforce the provisions of this act, shall be paid out of said fund upon the warrant of the auditor of state issued upon requisition signed by the president and secretary of the board.

Section 7. The secretary may receive a salary, to be fixed by the board, and shall be paid his necessary expenses incurred in the performance of his official duties. The secretary shall keep a record of all the proceedings of the board; and its books and register shall be prima facie evidence of all matters therein recorded. The members of the board, other than the secretary, shall receive the sum of ten dollars for each day actually employed in the discharge of their official duties, and their necessary expenses while engaged therein. The treasurer shall give bond in the sum of one thousand dollars, with sureties to the approval of the board, conditioned for the faithful performance of his duties.

Section 8. Every person to whom a certificate of registration shall be issued, shall keep the same displayed in a conspicuous place in his office and, whenever required, shall exhibit such certificate to the board or to its authorized representative; and, whenever practicing his profession of optometry outside of or away from his place of business, he

shall deliver to each customer or person fitted with glasses, a bill of sale, which shall contain his signature, home postoffice address and the number of his certificate of registration.

Section 9. The board may revoke any certificate of registration for conviction of crime, habitual drunkenness for six months immediately preceding the charge, or gross incompetency, but no certificate shall be revoked unless written charges have been filed against the holder of the certificate and at least five days' written notice of the time and place of the hearing thereon, which shall be public, served upon the accused, and he be given an opportunity to confront the witnesses against him, offer testimony in his own behalf and be heard in person and by counsel. Witnesses at such hearing shall testify under oath, which may be administered by any member of the board, and the board may enforce the attendance of witnesses. The board, at any time after the expiration of ninety days from its revocation may re-issue a revoked certificate when it is made satisfactorily to appear that the disqualification has been removed or has ceased to exist.

Section 10. Whoever, after October 1, 1909, not being lawfully authorized to practice optometry, as provided in this act, holds himself out as a practitioner of, or practices or attempts to practice, optometry, or whoever personate another such practitioner, shall, for each offense, be fined not less than twenty-five nor more than one hundred dollars, or imprisoned not more than three months, or both.

NOTA BENE.

Please observe that the bill opens out, in the first section with a presumptuous assertion—"any means, other than the use of drugs, medicine or surgery, for the measurement of the powers of vision, etc."; thereby declaring that the "powers of vision" can be determined, and, by presumption, accurately determined, without the aid of drugs, medicine or surgery. Granted that a digestive disturbance might be relieved by a judicious regulation of food and drink, without the use of "drugs, medicine or surgery," would you establish a "practice" founded upon so meagre a hypothesis? Could you afford to ignore the possibilities of ulcer, cancer or even of nervous derangement? So in regard to the "powers of vision," can you afford to ignore the possibilities of glaucoma, Bright's disease, syphilis, locomotor ataxia, brain tumor or reflex nervous influence? So much for a "practice" founded upon mere limitations.

Section 2 shows another limitation, creating a class between legally qualified physicians and those of no pretensions; acknowledging qualification and ignoring those who don't "profess." Surely, strange lines of distinction! To avoid a technical violation of the Medical Practice Act, they would deny themselves qualification, but by

"professing" would abrogate to themselves peculiar rights and privileges.

Section 5 defines the requirements for examination. After years of strenuous efforts, led by the medical profession, in its desire to safeguard the public welfare and to elevate and dignify its calling, laws of every state have been demanding higher and higher qualifications of those to whose care the lives, health and happiness of its citizens shall be intrusted. And now, forsooth,

"the equivalent of two years in a high school," "a course of optometry covering the period of not less than six months" shall qualify for work now legally intrusted only to those who have graduated from a high school of four years' course or have a collegiate degree, spent four or five years in a medical college, followed usually by courses in post-graduate work. Do the requirements in this bill mark an advance in the protection of the people or in the development of scientific proficiency?

MEDICAL ECONOMICS

THE COUNTY LOCAL OPTION LAW AND THE DOCTOR.

The confidence placed in medical men by the state in granting the right to prescribe alcoholic liquors as a medicine in dry counties, under the county local option law, should not be abused by a disregard for the intent of this exemption. The moral and hygienic factors entering this social problem appeal to practitioners for technical and moral support. The natural relation of medicine to the liquor vice presents potential power for the moral and sanitary betterment of the individual and the community. The present reform movement has served to call attention to this fact.

It is suggested that county societies and the State Association take official action in this matter, after the manner of the Medical Society of the State of North Carolina, which at its last annual session adopted resolutions to provide, in effect: (1) The condemnation as unprofessional and immoral any lax or unfaithful conduct on the part of its members in prescribing liquor in violation of the intent of prohibitory law; (2) Requesting and urging all physicians to aid in the enforcement of the law and in building up a public sentiment that will ensure protection against illegal traffic in intoxicating liquors; (3) Requesting the State Medical Board to revoke the license of any physician proved guilty of prescribing intoxicants unnecessarily.

COLUMBUS IS NOTED FOR ITS medical ability. The treatment of gall stones has taken an advanced step. The old method of surgical interference has been superseded by specific medication. The credit of this discovery is due to a practitioner who has gained a local reputation for removing gall stones by administering an oily preparation—any old oil will do, if properly distinguished—in such quantity that the globules of oil, coated by the bowel content, pass with the dejecta and, sure enough, there are the gall stones.

LITTLE THINGS OFTEN COUNT for much. A detail man visited Portsmouth not long since. He visited thirteen physicians or rather called at their offices and found no one of them. He was told that it was useless to call on the doctors as they all were attending a medical meeting. The detail man further stated: "Those doctors are friendly and well organized. They dispense but few medicines. They write prescriptions. The druggists are the most ethical of any town I know; they do not exploit patent medicines or prescribe for the sick."

WHAT WOULD HAPPEN IF SENATE BILL No. 3 WERE ENACTED.

Senate Bill No. 3, if enacted, would convert opticians into oculists; Makers of eye glasses would turn eye doctors; ophthalmology would be farmed out to uneducated practitioners; two state boards would qualify men to treat defective sight. The treatment of defective sight would be declared outside the pale of medical practice; the commercial interests of the optician would be enhanced without improving his art; optometry would reside in offices and treat patients; faith curists, food faddists, neuro-magnetic and other non-medical healers would find the state obligated, by this precedent to grant other medical boards, without number; to regulate medical practice in some of its branches; the policy of the state would look to the interests of opticians rather than to the health interests of the people; the state would vouch for the safe treatment of defective sight by the optician; the state would stultify itself, by foisting upon the people an optician, in the garb of "optometrist," as one equally fitted to treat visual defects as pitted against the oculist; the business of making spectacles would be ignored by the profession of optometry; public policy would allow systemic disease to destroy the sight of unfortunate citizens while the "optometrist" would try to fit glasses

to glaucoma or Bright's disease. As a part of state medicine, the optometry law would not measure up to the standards of medical science, but mark the decline of medical practice protection of the people.

THE OPTOMETRY BILL IS IN A CLASS of legislation with non-medical cults and faith healers, demanding recognition of the state, on equal terms with physicians, in the practice of medicine. The medical practice act represents professional standards and state medicine. Any invasion upon its provisions, by establishing independent sectarian or cult boards for the purpose of qualifying practitioners under a state license and under lowered standards of education, disorganizes the medical profession. Every physician in Ohio should work for the defeat of the Optometry Bill as a matter of public health defense and self-protection.

MEDICAL ECONOMICS AND COLLIER'S. AN EDITORIAL IN COLLIER'S, JANUARY 9, comments upon the events incident to the enactment of Optometry and Osteopathic laws during the last session of the New York legislature. It says:

"A number of oculists blamed him (the governor) because they thought opticians ought not to test for glasses at all, which happens to be a topic on which the governor's opinion was neither sought nor given. The practice exists. He merely approved a measure to make it safe."

The medical law was revised, under the unification bill, which included the osteopaths under a limited license, the same as in Ohio. Speaking of this measure the editorial says: "The bill in its present form was agreed to and favored by the legislative committee representing the New York State Medical Society. During the political campaign last autumn, a rather astonishing amount of ignorance was displayed by the doctors regarding the matter, and many of them were influenced by the appeal to vote against the governor because he had signed an Osteopathic bill."

This editorial begins with the remark that no profession is more progressive or alive than that of medicine, and ends with the statement that its members do not understand the subject of their complaint. In other words, the medical profession, in scientific pursuits, is progressive; in matters of organization it is deficient. Whether or not the situation in New York is fairly represented by Collier's, the fact remains that the profession as a whole is too often derelict in professional matters, aside from scientific interests, which are essential to a great organization.

Physicians in other states have shown the same incoordination of action and lack of policy before legislatures. Osteopaths and opticians in a number of states have secured independent licensing boards or a limited license to practice medicine under the medical boards, because of the do-little policy of physicians in maintaining the standards of state medicine. The principles of medical practice legislation are not properly supported for the reason they are not understood as are obstetrics, or surgery, because they are not taught in colleges or discussed in medical societies.

BOOK REVIEWS

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS. By J. Frank Schamberg, A. B., M. D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College of Graduates in Medicine, etc. Fully illustrated. Philadelphia and London: W. B. Saunders & Co.

This is an excellent little work for students and practitioners who desire a brief, but clear and practical description of diseases of the skin.

The subject is logically divided into classes according to predominating characteristic, as anemic, hyperemic, inflammatory, hemorrhagic, hypertrophic, etc. Each disease is briefly treated; a good definition gives the main distinguishing features, followed by the symptoms, etiology, pathology, diagnosis and treatment.

The description of the acute eruptive fevers is especially good.

The illustrations are many, chiefly original from actual photographs, and add greatly to the general attractiveness of the book.

PAIN—ITS CAUSATION AND DIAGNOSTIC SIGNIFICANCE IN INTERNAL DISEASES. By Rudolph Schmidt, Assistant in the Clinics of Hofrat von Neusser, Vienna. Translated and edited by Karl M. Vogel, M. D., Instructor in Pathology, College of P. and S., Columbia University, etc. J. B. Lippincott Co., Philadelphia and London.

This is a book that will appeal to a large class of thoughtful practitioners, as something out of the ordinary, and calculated to throw light on many obscure conditions.

It is an analysis of pain in internal disease; how in general it is modified by position, motion, pressure, food, by drugs or chemicals and the organic functions of the body. Then the various regions of the body are taken up seriatim, and the pains pertaining to each are discussed in relation to the organs connected therewith. The quality and time of occurrence of certain characteristic pains are next detailed; after which those of the various bodily systems, etc., are described.

The translators have added Chapter X to show Head's researches on referred pains. A goodly number of diagrams and charts occur in the appendix to complete the work and serve to graphically illustrate the text.

In these days of instrumental diagnosis, the subjective symptoms are too often disregarded. The careful study of this book will amply repay the careful practitioner and materially aid him in his every day work.

PATHOLOGICAL TECHNIQUE. Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M. D., Associate Professor of Pathology, Harvard Medical School; and J. H. Wright, M. D., Director of the Pathological Laboratory, Massachusetts General Hospital. Fourth revised edition. Octavo of 480 pages. Illustrated. Philadelphia and London: W. B. Saunders Company. 1908. Cloth, \$3 net.

The new fourth edition of this work retains the general arrangement of the preceding editions. The book has become a laboratory necessity to every clinician, and praise of it would be to only repeat the general opinion of the work. Many new methods are added, bringing the work up to date, but the new methods are those which have been tried and not found wanting rather than a mere laboratory compend. Among these new methods are Zinnser's anaerobic method for plate cultures, new methods for the cultivation of the typhoid bacillus, the use of ox-bile media, the medium of endo, the malachite green medium, the Weigert iron hematoxylin stain for nuclei, the Wright method for the differential staining of blood platelets and the giant cells of the bone marrow, Best's stain for glycogen, Von Koss's silver method for demonstrating lime salts and Sir A. E. Wright's method of preparing bacterial vaccines.

The volume still remains as before, an authority in its field.

READY REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By George Thomas Jackson, M. D., Professor of Dermatology, College of Physicians and Surgeon, New York; Dermatologist to the Presbyterian Hospital, New York, and to the Infirmary for Women and Children; Member of the American Dermatological Association and the New York Dermatological Association. Lea & Febiger, Philadelphia and New York.

The issue of the sixth edition of this work of dermatology shows the great popularity which this volume has attained. The book is thoroughly rewritten and is in strict accordance with the newer ideas in reference to the treatment and etiology. The book is not too voluminous in bibliography and theory, and its pages are filled

with salient points which are so necessary in a book of this nature. One of the most satisfactory features of the book is its confining itself largely to the experience of the author and refraining from quoting the opinions of others. Another feature of the book is the absence of a long list of prescriptions in the treatment, the author only giving those that he has found beneficial. The illustrations are rather poor, considering the quality of paper on which the book is printed. They lack accuracy and are not well defined.

The book is divided into two parts and appendix. The first part consists of the anatomy and physiology of the skin, general diagnosis, therapeutic notes, classification and nomenclature. The second part take up the diseases of the skin proper. They are considered alphabetically, which is a very convenient arrangement. The section on psoriasis is especially well written. The appendix is composed of a list of prescriptions which should be especially beneficial to the general practitioner.

Taken as a whole the book is a good one and is commended to the physician and student.

A TEXT-BOOK OF HUMAN PHYSIOLOGY, THEORETIC AND PRACTICAL. By George V. N. Dearborn, A. M. (Harv.), F.N. D. M. (Col.), Professor of Physiology in the Medical and Dental Schools of Tufts College, Boston; Professor of the Relations of Body and Mind in the Sargent School for Physical Education, Cambridge. Illustrated with 300 engravings and nine plates. Lea & Febiger, Philadelphia and New York. 1908.

This work well meets the needs and requirements of both medical and dental practitioners and students. In its 550 pages it presents in a concise and carefully arranged manner full information upon the broad subject of human physiology.

The author deals with this subject, which is too much neglected by both students and practitioners, in a way which keeps the practical side constantly in the foreground. The satisfactory manner with which he presents questions of diet and nutrition in the chapter on digestion is an example of this practical side of the work.

The chapter on the nervous system is especially useful and attractive to the physician.

The chapter on mental functions contains much which is new to text books on physiology and will be valuable to students of psychology.

The entire work is plain, practical and easy to read and from these standpoints should appeal especially to the physician in active practice.

It is well arranged and contains excellent illustrations. It is thoroughly up to date and we believe its popularity is assured.

THE PRACTITIONERS' VISITING LIST FOR 1909. An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and calendar for two years. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

DANTE: PHYSICIAN. By A. G. Drury, M. D., Professor of Hygiene in the Medical College of Ohio, Medical Department of the University of Cincinnati. Published by the Lancet Clinic, Cincinnati, Ohio.

A very interesting monograph in which the author shows by numerous extracts from Dante's writings that the great poet, philosopher, theologian and statesman was extremely well versed in the medical knowledge of his day, so much so, indeed, that it would certainly seem as the author contends, that this extraordinary character may well have been actually a physician as well.

DISEASES AND SURGERY OF THE GENITO-URINARY SYSTEM. By Francis S. Watson, M. D., Senior Visiting Surgeon to the Boston City Hospital, Lecturer on Genito-Urinary Surgery in the Harvard Medical School, Boston, and John H. Cunningham, Jr., M. D., Assistant Visiting Surgeon to the Boston City Hospital, Member of the American Association of Genito-Urinary Surgeons. In two very handsome octavo volumes containing 1101 pages, with 454 engravings and 47 full-page colored plates, mostly from original drawings. Price for the complete work: Extra cloth, \$12.00, net; half Persian morocco, gilt tops, de luxe, \$17.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

This is the most complete treatise on genito-urinary diseases and their treatment, medical and surgical, that it has been the pleasure of the writer to review. While many antiquated ideas and operations are found in this extensive work, it is for the most part up to date, and is clear and concise without being in any way too condensed. The illustrations, which are plentiful, are clear, well made and a large proportion of them are original.

One of the good points of the first volume is the article on prophylaxis against instrumentation and injections. This, to the writer's mind, is of extreme importance. Considerable space is given to the description of tumors of the testicle,

which will be of interest, especially to the general practitioner who treats venereal diseases. The ligation method, or the closed method, for the cure of varicocele, and the injection method for the treating of hydrocele, receive more favor than is warranted for such obsolete methods. The chapters on diseases of the prostate are especially complete. The pathology and surgical technique are gone into fully, and nothing seems to be omitted. This part of the text is especially good, and will meet with favor from surgeons generally. The chapters on cystitis will be welcomed by the general practitioner. The medical treatment is complete, and is presented in such a manner as to be of great use. One of the new things in this chapter is the consideration of the opsonic method of treatment of diseases of the genito-urinary tract. As the authors admit, this method is not developed enough to be worthy of very serious consideration and may be properly passed without comment. Tumors of the bladder, both benign and malignant, are fully discussed, and also the treatment of stone in the bladder. Too much space is given to the discussion of the operation of litholapaxy, considering the infrequency of its use. The authors do not express any preference for either the supra pubic or perineal route. Such an expression from them would be welcome and interesting. Extirpation of the bladder is given much consideration, but the indications for this operation are so few that its importance cannot be appreciated.

In the second volume there is an interesting chapter on uranalysis. The chapter on abnormalities of the kidney is disappointing in not being very complete. The articles on movable kidney, injuries, diseases and operation of the kidney, are exceedingly well written, although many of the later operations for the relief of movable kidney are omitted. The chapters on diseases and operations of the ureters are excellent, especially that part of the text relating to operations for intestinal and ureteral anastomosis.

This volume is completed by a section on tuberculosis of the genito-urinary tract. This chapter is a treatise in itself, and is of especial value not only to the specialist, but to the surgeon and general practitioner. The idea of citing cases for the demonstration of the text is a good one and a valuable part of the work. The addition of a complete bibliography of the various subjects discussed, and a reliable index, add to the value of the work. The publisher has furnished good paper, a clear type and a splendid binding.

(Continued on page 107.)

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

WATER DRINKING IN THE TREATMENT OF CHRONIC CONSTIPATION.

"Samuel G. Gant says: Water consumed at appropriate times in reasonable amounts, and, at a suitable temperature (50 to 150° F.) does a great deal in preventing constipation. Water, being a physiologic agent, facilitates metabolism, and helps maintain the body equilibrium; while purgatives act as foreign substances and are not well tolerated. Usually five or six glasses of water daily are ample. The effect upon the stomach and intestine is much better when it is taken in small quantities (half a glass) at frequent intervals (one or two hours).—Contributions to the Science of Medicine and Surgery, 25th Anniversary, N. Y. Post-Graduate Medical School."

EARLY SYMPTOMS OF CARCINOMA OF RECTUM.

McGill, in an article on "Malignant Growths of the Rectum" (Proctologist, Dec., 1908, p. 230), gives the following symptoms, which should always suggest an inquiry to determine if malignancy is present or not:

"In earlier stages the symptoms are extremely vague. At first there is no pain, bleeding discharge, or obstruction and the only warning the patient receives is an indescribable sensation of uneasiness which usually occurs some little time after the beginning of the growth. As the disease progresses the uneasiness gives way to a feeling of weight and fullness in the bowel or in the pelvis (when the growth is high up). The discomfort is felt at defecation in the sacrococcygeal region and sometimes in the limbs. This feeling is frequently attributed to hemorrhoids, fissure or sciatica. These manifestations are followed by a frequent desire to stool or a sensation of something in the bowel which it is impossible to expel, and defecation becomes less frequent, prolonged and difficult. Occasionally there is a latent period in which no symptoms appear that cannot be accounted for by other causes. The local and constitutional manifestations at this period do not in any wise indicate the serious nature of the disease.

"The existence of cancer is sometimes compatible with a perfect state of health for considerable periods of time. As the disease pro-

gresses there will be a gradual loss of strength, increased pain, or unusual bleeding from the rectum. The growth is well advanced when these symptoms occur."

Early local examination should be given all patients having such symptoms, and this examination should not be confined to digital exploration but should include a careful inspection, through a proctoscope, of the rectum and sigmoid. In advanced cases a "looseness of the sphincter muscle" is observed.

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.

Though not a common condition, congenital stenosis has undoubtedly often been overlooked and is but recently receiving due consideration. Shepherd (Montreal Med. Jour., Dec., 1908, p. 867), gives the symptoms thus:

"The child is born, as a rule, perfectly healthy and symptoms may come on a few hours after birth, or a few weeks or even months. The perfectly healthy baby may gain weight and do well for a week or two and then begin vomiting,—at least this is the symptom which first attracts attention,—though there may have been a disinclination for food some time before.

"The vomiting is characteristic; it is more a forcible ejection of milk from the stomach than vomiting. As soon as the stomach is distended with milk, it may be with one or two feedings, the contents are forcibly shot out of the mouth and nostrils. There is relief as soon as the stomach is emptied and the child has no nausea and is ready to commence feeding again with the same result. There is no bile in the vomit, but there may be mucus from gastric catarrh.

"The obstruction may not be complete at first, and thin food may pass through, but sooner or later the obstruction becomes complete, the bowels are constantly constipated and emaciation rapidly sets in. In these cases peristalsis is readily seen and a tumor can be felt in the region of the pylorus, midway between the costal margin of the right side and the umbilicus. There is often also dilatation of the stomach." The condition must not be mistaken for pyloric spasm.

"Here we have not the same kind of vomiting and the peristalsis is absent, as is also dilatation of the stomach and persistent constipation. In

spasm the baby never retains one or two feedings. All cases of the severe forms of stenosis if not operated on die."

Gastro-enterostomy or pyloroplasty are the operations performed. The latter is preferred by Shepherd. Of it he says:

"The objection urged against pyloroplasty is that the pyloric passage may become blocked by the infolding of the edges of the wound and the swelling of the cut mucous membrane. This has happened to Mr. Stiles, Mr. Campbell and Mr. Rutherford Morrison, but in all their operations the wound was closed by a double row of sutures. Now Mr. Dent uses only one row of sutures and this is quite feasible if the pyloric ring be cut away sufficiently before attempting to close the opening. I think also trimming the mucous membrane is a very important part of the operation and still further tends to prevent closure of the pyloric opening after operation.

"A small abdominal incision is also advantageous and tends to prevent subsequent hernia which has occurred in some cases soon after operation. Through and through sutures are better for the thin wall of an infant's abdomen and is also a much more speedy process."

[Some 100 or 150 cases have been reported. Some recently in Ohio.—Ed.]

EAR DISEASES AND GENERAL MEDICINE

Cameron (Penn. Med. Jour., December, 1908, p. 179) states that acute primary suppuration and non-suppurative otitis media should concern the medical man because he must be prepared to make an early diagnosis and to apply measures for immediate relief of pain and for the evacuation of pus. Usually on account of complications which may arise he refers such cases to a specialist. Acute mastoiditis he says is "not a medical disease" and should receive surgical attention. Certain of his observations are worth thinking over, for many a physician can recall at least once when he has overlooked, much to his chagrin, an ear trouble—possibly in some child.

"I have been impressed by the large number of physicians who never consider otitis media or mastoiditis as possible factors in the causation of certain conditions common, particularly to children. Men who make a specialty of treating children tell us, and my own experience bears this out, that time after time they have discovered the ear to be the seat of the primary lesion, when the physician in charge never even thought of it.

"Patients are treated for intestinal mischief,

bronchitis, influenza, pneumonia and typhoid fever, when simple incision of the drum will very often be followed by rapid recovery, and many cases of so called tubercular meningitis and acute meningitis might have been avoided had the ear been examined in time.

"When the known law of a disease is being transgressed, the successful diagnostician must be alive to all conditions that might cause such a transgression, and he is wise who places ear complications well up.

"In conclusion I wish to say that if the otologists who are handicapped in getting results, because so many cases of mastoiditis come to them in an advanced state, would stop lamenting this fact and spend more time and energy in teaching prophylaxis, diagnosis and prognosis, they would no doubt find their percentage of successful results materially increased, because it is only by education that the men who do not have the clinical opportunity to observe these cases frequently can be brought to a realization of the fact that the ear is very often the seat of grave pathology, and when this is fully realized, it will also be realized that delay, even in doubtful cases, is unwise, and medical treatment too frequently of no avail."

THE OPEN METHOD OF TREATING EXTENSIVE BURNS.

Some two years ago a physician of St. Joseph, Mo., advocated in the Jour. A. M. A. a change in the prevailing methods of treating extensive burns. The method seemed rational and considerable data and details of the method were given.

There can be no doubt that toxic absorptions produce death long after the initial shock has passed. The results of the usual method of treatment, with its tedious and painful dressings, are far from satisfactory. There is, indeed, reason to believe that the moist dressings favor bacterial growth in the injured tissues and add to the toxemia of the patient. It is *time* we turned to the open method of treating these extensive injuries—a method which is simplicity itself; gives comfort to the patient, saves time for the attendant and does away with most of the secondary infections of the wound with their concomitant fevers.

Weatherly (Texas State Med. Jour., January, 1909, p. 229) has the following to say of the method and its results:

"After the receipt of an injury the tissue should be rendered as aseptic as possible, but let me add that the infection is not so much from an in-

ternal source as from the skin itself, and does not demand that amount of scrubbing that has been advised by many. After this gauze may be applied, saturated in a boric solution or some simple non-toxic antiseptic, which when absorbed will not add to the toxins with which the system will soon be laden. This gauze should be covered with paraffin paper, oiled silk or rubber tissue, and an evenly applied bandage over this. This dressing should be used for the first few hours until shock and pain is relieved. After this a plan should be put in execution which, in my opinion, has no parallel.

"It is a well known fact that a burn of a slight degree will close the sweat glands, for a time at least, through which much poison is eliminated from the body; also that the blisters will open and expose the capillaries, converting what was an organ of elimination into one of rapid absorption. The serum, when a blister exists, is an ideal culture medium for the various germs that abound in countless millions in the cutaneous system of every individual. No one knows so well as the general surgeon the death dealing nature of the inhabitants of the follicles of the skin. With this culture medium, warm and fluid, which gives us every condition favorable to germ life, with the myriads of pests exposed, and with the open-mouthed capillaries ready to swallow up and grasp everything in reach, it is only a short step to a system laden with toxins of deadly character. The old plan of having the dressings changed every twenty-four or forty-eight hours not only increased the infection, but held the poison in contact with the skin for its rapid absorption, to say nothing of the odors that emanated therefrom.

"The plan is to control pain and shock, as above stated, for the first few hours, after which remove all clothing, as well as dressing, and place the patient on a good firm mattress, over which a rubber sheet, covered with a linen one, has been spread. Over this place a frame in the shape of a wagon cover, best made of wire, which should be easily removed, leaving plenty of room for the patient to move with entire freedom. Take some antiseptic powder, my choice being one part of compound stearate of zinc, and sprinkle over the wounds freely from a large can made like a pepper box, repeating this procedure every hour or so until all parts are covered and a good quantity is on the sheet. In allowing the patient to move at will, the blisters will soon break and rub off, to have a goodly supply of powder taking its place. Scabs will be formed, to be rubbed off

again and will reform, largely from the ever-ready powder, which must be abundantly supplied.

"The first few hours the bed may be unsightly, but soon all wounds will be dried and the patient entirely comfortable, free from fever and pain, and will go on to a speedy and complete recovery. It is truly surprising how the temperature will drop to normal and remain so under this plan of treatment. It will be necessary at first to change the sheets often, but in a few days every forty-eight hours will be sufficient. The patient can be kept warm, if the weather is cold, by an abundance of cover, or by an alcohol lamp hung from the frame under the cover. These cases may be treated with the sheets spread next to the body, provided it is not convenient to secure the frame. The propagation and absorption of germs and germ elements will soon be corrected, and the system will be spared the surcharge of the poisons which so much retard recovery, and only the auto-intoxication will have to be combated, which may be accomplished by stimulating the emunctories and sustaining the system."

It must be understood that this method is advocated "only in burns of extensive degree and not in burns of small area."

[We recall a patient treated by this method for some days. There was practically no rise of temperature. The child was comfortable, the dressings practically painless, even when it was found necessary to clip off bits of dead skin, yet the parents (ignorant foreigners) dismissed their physician and employed another, who put on the usual oil dressings. Fever, delirium and death at the end of four days followed.—Ed.]

SURGICAL TREATMENT OF BUNION.

"Porter enumerates five reasons for the failure of many operations for bunion and describes his own technic, which for five-years has given perfect satisfaction. A curved incision two inches long, just below the edge of the callus covering the head of the metatarsus, is made with the foot elevated and the ankle constricted so as to produce a bloodless field. The capsule is excised in the same direction and extent, and the capsule and periosteum are stripped a little from the bone at their junction. About three-quarters of the articular surface is removed, including all the enlarged inner tuberosity. The head of the bone is not removed, because the deformity can be corrected without, shortening of the inner

border is avoided, and motion is more free. The toe is pulled strongly inward and the tendon of the extensor proprius hallucis is divided subcutaneously at the joint. Very little pressure will then straighten the toe. The cavity is filled with gauze, with hot antiseptic solution. While the toe is held in its corrected position a mattress suture of strong iodine catgut is carried from the lower angle to the upper angle, returned through the upper angle, and brought out at the lower angle. The gauze packing is removed and the suture tied, approximately the upper and lower angles of the capsule incision, when, if the bone has been properly removed and the tendon divided, the toe will remain straight. The skin wound is closed with horsehair or catgut, and a thin gauze dressing put on. Over it is a piece of piano felt with a hole in it, like a bunion plaster, and a cigar box splint a trifle longer than the foot and wider than the toe is fastened to the inner border of the foot with adhesive plaster. It is then covered with a bandage, starting from the angle, and is fastened firmly to the foot and the toe firmly fastened to the splint. Unless there is some indication for doing so, the dressing is not disturbed for two or three weeks. It is not safe to remove all restraint from the toe for at least six weeks. A straight-lasted shoe, with a broad ball, must be insisted on even with women in the height of fashion. Porter well says: 'If you can not dictate the shoes, don't do the operation.'—*Lancet Clinic*, Dec. 26, 1908, via J. A. M. A.

[Note.—This method, with illustrations, is also printed in *Surg. Gynec. and Obs.*, Jan., 1909. We should not forget that bunions are often caused by flat-foot and are frequently relieved or avoided by a properly-fitted insole plate.—Ed.]

CHOLECYSTITIS: GALLSTONES BUT INCIDENTAL.

We often say, "Operate for gallstones," not thinking that the expression does not convey the true situation. Morris presents the other view in a clinical lecture (*Post-graduate*, Dec., 1908, p. 1039), when he says:

"Now we know that the bacterium is the biggest thing that ever gets into the appendix. A few years from now we shall all be up to date on cholecystitis, and, realizing that the bacterium is the biggest thing that ever gets into the gall

bladder, we shall laugh at our old simplicity in making the question of the presence of stones one of determining importance in relation to operative procedure. The afferent vessels of the portal system carry intestinal bacteria from the bowel to the liver. Some are destroyed in the liver, and some pass on to excite catarrhal inflammations of the bile ducts. Two or three things happen in consequence. Sometimes the inflammation simply causes a desquamation of endothelium from the peritoneal side of the ducts, and the following exudate forms adhesions, which may remain permanently. I call these "gall spider cases" because of the webs of adhesion that are spun over adjacent structures in the attic of the abdomen. These adhesions may cause practically all of the symptoms of gallstones, as has been noted by many a surgeon to his discomfiture when he has operated and found nothing in the gall bladder. Avoid this discomfiture by telling patients that the matter of presence or absence of gallstones is a matter of small importance, and that the operation is for the results of cholecystitis."

HOT IODINE LAVAGE OF THE INFECTED PUERPERAL UTERUS.

"Ortali has applied in three cases Mergari's method of treating puerperal infection, and he commends it in high terms. The vagina is disinfected, dilated, and the uterus lightly curetted to remove all retained clots, after which the uterus is flushed with from 100 to 500 gm. of a mixture of equal parts of tincture of iodine and hot water, allowing free escape to the fluid. After a few minutes, or at the first complaint of the patient, the uterus is rinsed out with plain boiled water to remove any excess of iodine. No tamponing, either of uterus or vagina, is necessary. It is remarkable, Ortali asserts, how quickly normal conditions are restored in the uterus by this method of treatment. He warns that this or any local measure is applicable only when the infection results from a local process."—*Gazzeta degli Ospedali e delle Cliniche*, Nov. 22, 1908, via J. A. M. A.

REMEDY FOR THE PAIN OF INSECT BITES.

Patrick Maloney writes: "The bites of mosquitoes and various gnats, the stings of wasps, bees, etc., have often produced a considerable amount of pain and discomfort, and even death has resulted as a consequence of such stings in human beings.

"For some time past I have used iodine crystals in saponated petrolatum, 30 to 40 grains to an ounce. A few drops of this is rubbed over a mosquito bite with magical effects. I have also rubbed it over parts stung by wasps of various sorts and sizes. The pain of the sting was very quickly relieved. It seems to me it might be used, in addition to other measures, in cases in which one was bitten by a viper."—J. A. M. A., Jan. 9, 1909, p. 136.

[A similar preparation of iodine 10% in *raw* linseed oil has long been used to soothe the itching and inflammation due to poison ivy.—Ed.]

MORRIS POINT OF TENDERNESS AS AN AID IN DIAGNOSIS.

Hubbard (Bost. Med. and Surg. Jour., Dec. 31, 1908, p. 895) discusses the differential sign described by Morris and comes to the following conclusions:

"The abdominal lymphatic glands, becoming secondarily inflamed, cause tender areas. The area found tender on examination is somewhat of a guide to the organ primarily infected, and, therefore, in certain cases may be an aid in differential diagnosis.

"In acute appendicitis tenderness at Morris' point is of less importance than the symptoms caused by the appendix itself.

"In chronic appendicitis tenderness at Morris' point may be of distinct diagnostic value. Tenderness at this point, even though the only physical sign, makes the diagnosis of appendicitis by the rule of chance probable; when combined with tenderness at McBurney's point, the diagnosis becomes more certain. Its absence does not rule

out appendicitis, and it may occur in other conditions. The point has by no means the importance given to it by Dr. Morris."

[This diagnostic sign was reviewed in these columns April, 1908, p. 243.—Ed.]

BOOK REVIEWS.

(Concluded from page 103.)

INTERNATIONAL CLINICS—Volume IV, 18th series. A quarterly of illustrated clinical lectures and especially prepared articles on Treatment, Medicine, Surgery, etc. By leading members of the medical profession throughout the world. Edited by A. O. J. Kelley, A. M., M. D., Philadelphia, U. S. A. J. B. Lippincott, Philadelphia and London.

This volume completes the series of 1908 and contains some very excellent articles. Pratt calls attention in no uncertain terms to our neglect of physical therapeutics and we must admit his statements are justified.

Lichty shows that neither the internist nor the surgeon may claim the field in the treatment of gastric ulcer, but that each has a part. Medical treatment is preferable in many cases, but surgery must be instituted in some. The methods and results of surgery at present, he concludes, are not all that is to be desired.

Brown gives a good resume of splanchnoptosis, or *Glenard's Disease* (we wish this futile custom of attaching men's names to diseases or conditions would be abolished), and Weber cites an interesting case of splenic anemia with a differential discussion of the various splenic enlargements.

Nicholas contributes a very valuable paper on acute dilatation of the stomach.

Under surgery several topics are discussed, of which Ely, on his personal observations with the use of Bier's hyperemia, is of the most practical interest.

Then follow contributions to the special subjects, hygiene, neurology, laryngology, pediatrics and pathology, making a comprehensive work attractive to all branches of the medical profession.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKEE, Collaborator.

William Gillespie, in his address as retiring President of the Academy of Medicine of Cincinnati, made such vigorous criticisms, many of them quite just, but nevertheless offensive to those who were criticised, that a motion was made to have the retiring president's address stricken from the minutes. After a warm discussion the matter was laid on the table. The doctor at the earnest solicitation of his many friends and in the interests of peace and harmony has decided not to publish his paper.

Inaugural address of R. B. Hall, as President of the Cincinnati Academy of Medicine:

In electing me to the Presidency of the Academy of Medicine, you have conferred upon me a distinguished honor. For this evidence of your good will and friendship, I extend to you my hearty thanks.

In accepting this honor, I realize that it involves a corresponding compensation in an earnest effort to discharge my duty to you. I shall not attempt any extended remarks, but shall reserve them until the end of my administration. I can not assume, however, this position as your presiding officer without reminding you of the Academy's opportunity for good at the present time.

We are about to witness the consolidation of the medical colleges into one institution. Upon the eve of this consolidation, when the influence of the Academy will be felt either for or against the movement, we should exert our influence to unify the sentiment of the medical profession in the interest of this consolidation. There should be no division of interests in this matter. There should be no medical factions in Cincinnati from this day forward. Our loyalty, hitherto divided, must be unified. Our aims must not be parallel. They must be identical.

It is a well known fact that there has been diversified interests in the medical profession in this city for many years. Probably the strongest incentive for these different factions was largely due in the commencement, to the fact that there were in this city several medical colleges, and, as their interests were parallel only so far as giving good instructions to their student, it is perfectly apparent that there must, in the nature of things, be frictions and irritating incidents come up. We do not care to discuss these facts further than to cite them as probably the most prolific cause of

factions and differences in the medical profession here in the past. With these all wiped out, as they must be in the establishment of a larger medical department in the university, it is every doctor's duty, whether he is connected with the faculty of the new medical department or not, to use his best influence to unify the medical sentiment in this city. From this, it is our medical college. It is our university and we must work for it as one man. If we do so, we will see greater things in a medical way in Cincinnati in the future than has ever come out of it in the past.

There has been a request made by the trustees of the university for the issuing of one million dollars' worth of bonds, a part of this to go to the medical department. We should, each one of us, be a missionary and use our influence to secure the passage of a law issuing these bonds at as early a date as possible. The medical department of the university is bound to succeed, and, if we aid it now, we will see success earlier than we otherwise may see it.

We, as members of the medical profession, are greatly interested in the rapid completion of the new city hospital, both for the comfort of the needy poor and to facilitate bedside teaching and we should use our combined influence in this good cause. With this great undertaking completed, the city could care for the health of the poor in a manner that it has never been prepared to care for it in the past.

As members of the medical profession, we felicitate ourselves upon the improved public health after the completion of the new water works, which will soon be turned over to the city by the board appointed to build them. This board deserves the hearty thanks of every member of the medical profession. The completion of the water works, at one great stroke, removed one of the most prolific causes of diseases by giving us practically pure water. There are many subjects interesting to physicians that we might discuss, but I promised you in the first place that I would not make any set speech, therefore, I will close, wishing you the most prosperous year in the history of the organization.

The Cincinnati Academy of Medicine held their regular meeting January 5. The following officers were elected for 1909: President, R. B. Hall; vice-president, S. E. Allen; second vice-president, E. S. McKee; secretary, E. O. Smith; treasurer,

A. G. Drury; librarian, A. I. Carson; censor, J. E. Greiwe; trustee, J. F. Heady; delegates to the Ohio State Medical Association, J. O. Thompson and S. P. Kramer. C. L. Bonifield was appointed to succeed S. E. Allen as representative for the Academy to the Associated Organizations of Cincinnati.

SECOND DISTRICT

R. H. GRUBE, Collaborator.

Program for 1909 of the Allen County Medical Society:

January 5.—"Are Drugs Useful in the Treatment of Disease?" T. H. Sidener; discussion, R. D. Kahle. "The Bromides," J. B. Poling. Report of case.

January 19.—"Pneumonia," W. H. Parent; discussion, W. L. Neville. "Viburnum," R. V. Dickey. Report of case.

February 2.—"Rational Therapeutics: Not Therapeutic Nihilism or Skepticism," J. B. Vail; discussion, D. W. Steiner. "Belladonna," A. H. Herr; report of case, J. J. Murphy.

February 16.—"Present Status of Serum Diagnosis and Serum Therapy," Oliver Steiner; discussion. "Silver Salts," M. L. Johnston; report of case, G. W. Henderson.

March 2.—"Surgery of the Throat," A. W. Bice; discussion, C. D. Gamble. "Local Anaesthetics," W. H. Witter; report of case, N. E. Brundage.

March 16.—"Infant Feeding," E. C. Yingling; discussion, A. S. Rudy. "Opium and Its Alkaloids," G. A. Bachmayer; report of case, E. G. Burton.

April 6.—"Surgical Gynecology," J. H. Huntley; discussion, T. R. Terwilliger. "The Hypnotic Drugs," M. M. Hixon; report of case, Bert Hibbard.

April 20.—"The Use and Abuse of the Curet," L. F. Laudick; discussion, A. H. Creps. "Pilocarpine," A. C. Adams; report of case, N. Sager.

May 4.—"Anaesthesia in Obstetrics," I. R. Wetherill; discussion, W. E. Hover. "Iodine and the Iodides," H. G. Stemen; report of case, G. A. Blackmayer.

May 18.—"The Ethics of the Medical Profession," S. B. Hiner; discussion, S. G. Weger. "Bismuth," J. C. Pence; report of case, Iva M. Lickly.

June 1.—"Cystoscopy," William H. Lewis; discussion, A. L. Jones. "Salicylates," A. S. Rudy; report of case, D. W. Steiner.

June 15.—"Gastro-Intestinal Diseases of Children," A. Pfeiffer; discussion, S. J. Derbyshire.

"Antiseptics," Ezra Burnett; report of case, Edward Edwards.

September 7.—"Diphtheria," I. F. Steiner; discussion, J. R. Welch. "Saline Cathartics," I. C. Stayner; report of case, G. J. Roberts.

September 21.—"Wounds and Injury to the Eye," F. G. Steuber; discussion, W. B. Van Note. "Electro-Therapeutics," H. C. Bennett; report of case, H. Q. Alexander.

October 5.—"The Diagnosis of Surgical Diseases of the Upper Abdomen," T. R. Thomas; discussion, William Roush. "Digestive Ferments," C. E. Stadler; report of case, R. E. Hughson.

October 19.—"The Business Side of the Practice of Medicine," F. L. Bates; discussion, R. V. Dickey. "Hyosevamus and Hyoscine," R. D. Kahle; report of case, S. A. Hitchcock.

November 2 ("Headaches," a symposium)—"Headaches of Nasal Origin," A. F. Knisely; "Ocular Headaches," W. B. Van Note; "Headaches of Nervous Origin," A. H. Creps; "Systematic Headaches," G. S. Weger. Discussion, A. W. Bice.

November 16.—"Serum Treatment of Gonorrheal Affections," P. I. Tussing; discussion, T. R. Tillotson. "Aconite," M. S. Bowser; report of case, A. L. Jones.

December 7.—"Medical Jurisprudence," D. C. Henderson. Election of officers.

December 21.—"Cellulitis," O. E. Chenoweth; discussion, E. G. Burton. "Coal Tar Derivatives," Shelby Mumaugh; report of case, T. R. Terwilliger.

The Montgomery County Medical Society held their regular meeting Friday evening, January 8. The program was as follows: Report of cases, by Drs. Barker, Goodhue, Breese, Klepinger, Miller, Dunham, Ewing, Delscamp, Bunn, Gohn, Allaman and Bowers; annual reports of officers and committees; final consideration of the revised constitution. Many important changes came up for consideration.

At the regular monthly meeting of the Clark County Medical Society for January, 1909, the following program was carried out:

W. C. Taylor, "Why I Use Ether as an Anaesthetic." The paper was discussed by the following doctors: Drs. Bell, Minor, Watson, Kay, Russell, Hutchinson. By invitation, the dentists of the city were present and took part in the discussion. The following officers were elected for the ensuing year:

President, W. B. Patton; first vice-president, W. A. Ort; second vice-president, R. B. House; executive committee, W. A. M. Hadley, D. W. Hogue; treasurer, W. C. Taylor; secretary, Will Ultes, and historian, W. B. Patton.

THIRD DISTRICT

H. B. GIBBON, Collaborator.

The Allen County Medical Society met in regular session at Lima Hospital, January 5, 1909, at 8.15 p. m., and was called to order by T. M. Johnson.

W. E. Hover, chairman of the Anti-Tuberculosis Committee, reported progress to date. This committee, which is a joint committee, composed of Drs. W. E. Hover, E. G. Burton, W. H. Parent, P. I. Tussing and J. B. Poling, of the Medical Society, and Revs. Swanson, Fitzgerald and Geckler, of the Pastors' Union, are conducting a general anti-tuberculosis campaign. Meetings are held every two weeks. Five articles, dealing with the prevention of tuberculosis, have been published by the daily papers. Short addresses have been made at the Lima Locomotive Works and at the L. E. and W. shops. A general meeting at the Y. M. C. A. was addressed by W. E. Hover.

T. T. Sidener then read an interesting essay on "Are Drugs Useful in the Treatment of Disease?" His purpose was to bring the question before the society for discussion. So much is heard in these days of the unreliability of drug treatment of disease. The unbeliever in drugs usually owes his lack of faith to lack of results. This may be due to an improper administration or to the use of an inert preparation. The fault lies not in the drug, but in the doctor. Therapeutics is usually the weakest branch of the college curriculum. The only right attitude for the physician to adopt is that of the learner, open to the truth, but not wafted about by every new idea, putting to the test that which is new and holding fast to that which is proven.

This was discussed by Drs. Kahle, Hiner, Derbyshire, Hover, Roush, Rudy, Parent, D. W. Steiner and Mumaugh.

J. B. Poling read an essay on "The Bromides."

Shelby Mumaugh reported a case of tenia solium, with exhibition of a specimen twenty-five feet in length and containing about eight hundred segments. This was followed by a general discussion.

Members present were Drs. Hover, Derbyshire, Bice, Tillotson, Kahle, Sidener, Hiner, Roush, Mumaugh, Bachmayer, Rudy, A. D. Knisely, Parent, Chenoweth, D. W. Steiner, Poling, Johnson and Lickly.

The fourth annual meeting of the Auglaize County Medical Society was held January 14, 1909. Program:

Anthony Culliton, St. Marys, address of welcome; M. J. Longworth, St. Marys, response; Alired P. Cole, Cincinnati, "Colpoperineorrhaphy;" G. W. McCaskey, Ft. Wayne, Ind., "Tuberculosis in the Intestines and Peritoneum;" F. F. Lawrence, Columbus, "Extra-Uterine Pregnancy;" E. Gustav Zinke, Cincinnati, "The New Management of Labor Cases Complicated With Narrow Pelvis;" Herman H. Hoppe, Cincinnati, "Diagnosis of Brain Tumors With Demonstrations of Specimens;" Horace J. Whitacre, Cincinnati, "Appendicitis With Abscess Formation;"

Banquet at 7.30 p. m., Palm Hotel. Toastmaster, C. L. Dine, minister.

K. K. Wheelock, Ft. Wayne, Ind., "Dreams and Other Facts;" C. A. L. Reed, Cincinnati, "Importance of Perfect Medical Organization;" C. L. Bonifield, Cincinnati, "The Influence of Medical Men in Public Affairs."

At the December meeting of the Hancock County Medical Society the following officers were elected for 1909: President, Don C. Hughes; vice-president, J. H. Varnum; secretary, Earl J. Thomas; treasurer, J. P. Baker; censor (three years) S. L. Woods; delegate to State Association, J. A. Kimmell, alternate, E. George; public health and legislation, N. L. McLachlan, J. P. Baker and J. C. Tritch; entertainment committee, J. M. Firmin, J. A. Kimmell, J. C. Tritch, E. G. Hersh, N. B. Kennedy, E. J. Thomas and Don C. Hughes

The Logan County Medical Society met in regular session January 6. It was decided to hold the regular monthly meetings the first Thursday of each month. James Craft of West Liberty was elected to membership.

The first post-graduate meeting of the year was held January 21. The program was as follows: A. M. Steinfeld of Columbus read a paper on "Tuberculosis of the Hip Joint;" A. J. McCracken, "The Palliative Treatment of Prostatic Hypertrophy;" R. C. McNeal, "Auto-Infection." Following the meeting an informal oyster supper was held.

W. C. Pay read a paper entitled "Pleurisy With Effusion." Pleurodynia and intercostal neuralgia are differentiated by absence of fever. One important sign is dyspnoea; it is very marked when effusion is rapidly formed. In stage of effusion the patient will lie on affected side, cough slightly;

fever ranges from 102 to 103. The Ellis line of flatness which Garland has verified clinically is an important point in diagnosis. It is a line that begins lowest behind and advances upward and forward in a letter S curve to the auxiliary region, thence in a straight decline to the sternum.

Empyema is differentiated by knowing that the whispered voice will be transmitted through a serous fluid while it will not through a purulent fluid; this is known as Bacella's sign. The affected side is larger than the other side by measurement. Inspection reveals bulging of intercostal spaces, and that side expands imperfectly. Apex beat of heart is displaced; the degree of displacement depends upon quantity of exudate. Prognosis must be guarded. Treatment—If pain is very severe, morphia hypodermically stands at the head of the list of drugs. Five grains each of phenacetin and Dover's powder may be sufficient if pain is mild. Counter irritants serve a good part in relieving intestinal congestion and may be kept up for some time. Strapping of chest is to be praised. Dry and moist cupping may be resorted to in giving relief. A dry diet and limiting the amount of liquid is also advocated; at the same time give full doses of salines to deplete the blood vessels of serum and the absorbents will take up this effusion in order to neutralize the blood pressure.

Full doses of salicylate of soda is a very useful agent. If fluid increases, as it does in 33 1-3 per cent of cases, aspiration must be resorted to. Paracentesis should be resorted to especially where effusion has been rapidly formed. Position of patient when aspirating: The arm should be brought forward with hand on opposite shoulder, as this widens the interspaces. If on right side the puncture should be made in the sixth intercostal space, in median auxiliary line, always introducing needle at upper margin of rib so as not to injure the intercostal artery. Withdraw the exudate slowly, the amount withdrawn depending upon quantity of exudate present and the rapidity of its formation. As soon as patient complains of a sense of constriction about the chest, the withdrawal of the fluid should cease at once. Syrup of iodide of iron is a remedy to be used after aspiration, to which five or ten grains of potassium iodide may be added at each dose until full tolerance is reached. The latter remedy is much vaunted in the treatment with small effusions. Rest in bed for forty-eight hours after aspiration is to be advised; after this patient can sit up and take moderate exercise. Nourish patient well and advise deep breathing to open any air spaces that may be impervious.

The venerable B. B. Leonard of West Liberty was present and took an active part in the discussion of the paper. He also brought with him a collection of calculi which he had collected during his long and active practice. He gave a history of each specimen, which was one of the most interesting features of the afternoon program.

FOURTH DISTRICT

L. A. LEVISON, Collaborator.

The Williams County Medical Society held its annual meeting for 1909, Thursday afternoon, January 14, at Montpelier. The program was as follows: "Clinical Diagnosis," W. L. Hogue; discussion, S. S. Frazier, A. G. Goll, A. Hathaway. "The Conjunctiva in Early Diagnosis of Tuberculosis," C. E. Hoover; discussion, W. A. Held, A. E. Keiser, J. V. Lesnet. "Pancreatis—(a) "Chemical Pathology," N. W. Brown, Toledo; (b) "The Etiology and Diagnosis," C. N. Smith, Toledo.

At a regular meeting of the Fulton County Medical Society the following officers were elected for the year: Charles N. Heffron, Metamora, president; W. H. Maddox, Wauseon, vice-president; Clair S. Campbell, Wauseon, secretary; George McGuffin, Pettisville, treasurer.

The medical and pathological sections of the Academy of Medicine of Toledo and Lucas county met in joint session January 15.

C. O. Imoberstag reported and presented a case of exencephalus. He said that exencephalus, hemicrania and acrania are names given to defects due to the arrested development of the cranial vault. The case here reported also includes an imperfect development of the cervical vertebrae. The cause of the deformity is the arrest of development due to injury in some manner of the embryonic structures, and this case was produced by a criminal abortion in the second or third month by plunging a knitting needle into the uterus. Although injuring the embryonic structures, the damage was insufficient to destroy the embryo. In this specimen the exencephalus of an imperfectly developed cerebrum, covered with the dura and arachnoid, the arch of the atlas and the arches of the cervical vertebrae have not united and are spread apart. The transverse processes of the atlas can be plainly seen. Apparently there is no special cord in the cervical portion of the spinal column. The genital organs are also maldeveloped.

S. B. Eichberg reported a case of pregnancy complicated by fibroid with operation and recovery. The report is as follows:

Patient, aged 36, white, entered St. Vincent's hospital, Toledo, to be delivered. Pains and dyspnoea before admission. Abdomen large, foetal heart beat heard in normal position. Position of child normal.

Vaginal examinations showed slight dilatation of os. Upon labor beginning, patient was prepared and delivered an eight-pound boy with little trouble. There was a little trouble experienced, however, in delivering the placenta. After delivery there was a mass remaining in the abdomen, which was diagnosed as a twin child, although foetal heart beat could not be heard. After waiting a number of hours Dr. Eichberg passed the entire hand and arm into the uterus and could feel an abnormal opening within. The diagnosis was then established as uterine fibroid. The patient was later operated upon and the fibroid removed with an uneventful recovery. The specimen was demonstrated.

N. Worth Brown read a paper on the "Pancreatic Reaction." Dr. Brown traced the evolution of this test through the "A," "B," and finally the present "C" reaction. The experimental work of Felix Eichler was mentioned in which an artificial pancreatitis was produced in dogs and the urine then shown to contain the characteristic crystals. The substance giving the reaction is unknown, but is supposed to be a pentose-like body. At first Cammidge experimented with the blood of patients affected with various pancreatic diseases. The reaction can be made by any one having fair chemical skill. If the crystals of a positive reaction are obtained, a positive diagnosis of pancreatitis may be made. The test does not differentiate between different forms of pancreatic disease. It is present in about 2 per cent. of pancreatic carcinoma and here probably due to a coincident pancreatitis. The crystals are bright yellow, sheaf-like in form and covered with small bright red spheres. Dr. Brown demonstrated these with the stereopticon and also exhibited charts showing his work with the reaction. He had done the test fifty times upon twenty-three different patients and has obtained a positive reaction in nine cases. The technic of the test is as follows: The filtered urine (30.0) shown to be sugar and albumin free is boiled on the sand bath for ten minutes after the addition of 2.0 c. c. strong hydrochloric acid (sp. g. 1.16). After cooling, the excess of acid is neutralized by slowly adding 8 grams lead carbonate. This is then filtered out until it is perfectly clear

and 8.0 grams powdered tribasic lead acetate added. The mixture is again filtered several times until it is clear. The lead in solution is then removed by precipitating it with 4.0 grams sodium sulphate, the mixture heated to the boiling point, cooled and the precipitate removed by filtration. Ten (10.0) c. c. of the clear filtrate is then made up to 17.0 c. c. of 50 per cent. acetic acid. The mixture is boiled for ten minutes and filtered while hot and set aside to crystalize.

Dr. John Paterson Gardner reported a case of cerebro-spinal meningitis, in which the anti-meningococcic serum was used.

The use of the anti-meningococcic serum in the treatment of epidemic cerebro-spinal meningitis is of such recent date that exhaustive reports have not yet been made, but such satisfying results have already been obtained in reducing the mortality percentage that its general employment is now assured. Dr. Simon Flexner has reported the result of the employment of the serum in a series of 393 cases in which there were 295 recoveries and 98 deaths, that is 75 per cent. recoveries, practically reversing the mortality rate under other methods of treatment.

The following is a case of sporadic cerebro-spinal meningitis (probably epidemic) in which the use of the anti-meningococcic serum was attempted.

A 20-months-old-child, who had been sick for a week with diarrhea, and whose case was diagnosed as typhoid fever, was seen September 22, 1908, presenting the following conditions:

Pulse 140, temperature 103 1-5, respiration 54. Extremely restless; no eruption on body; the right lung was consolidated, as was a portion of the left lower lobe posteriorly. There were from seven to ten movements a day, dark green and of a foul odor. Urine examination was negative. Diagnosis of lobar pneumonia was made, complicated by gastro-enteritis.

By October the 6th the child was apparently convalescing. On the morning of the 12th the subcutaneous tissue was edematous. Urine examination: Specific gravity, 1016, light amber color, no albumin, a few epithelial cells. The diarrhea, which had been decreased, again became severe. By the 17th the edema had disappeared, but the diarrhea continued. On the 19th the posterior muscles of the neck were noticed to be in a state of tonic spasm. Further detailed questioning brought out the fact that the child was first taken sick with an attack of vomiting and went into a spasm. On the 20th lumbar puncture was made, and 15 c. c. of slightly turbid

fluid was withdrawn. It showed few cells and no organisms. Two days later another lumbar puncture was made and only 10 c. c. of slightly turbid fluid could be recovered. It showed few cells and no organisms, but a centrifugized specimen revealed an extra cellular gram negative diplococcus, which showed a tendency to form tetrads. On the 26th another lumbar puncture was made, but no fluid could be obtained. On the 27th not only no fluid could be withdrawn by lumbar puncture, but the anti-meningococcic serum could not be injected; 15 c. c. of the serum was injected into the back subcutaneously. The child died six hours later.

Autopsy of the head revealed internal hydrocephalous with a diffuse deposit of thick yellowish pus at the base of the brain and in the ventricles. The fourth ventricle was entirely filled. Smears from the pus showed no organisms. Histological examination reveals the meninges and ependymal lining to be the seat of marked inflammation.

This case illustrates some of the fatal complications that may arise to render impossible the employment of the serum according to the usual methods of administration.

Under similar conditions the operation of choice would be ventricular puncture, relieving the internal hydrocephalous and the injection of the serum directly into the ventricles.

FIFTH DISTRICT

FRED M. HITCHINGS, Collaborator.

The Ashtabula County Medical Society held their fortieth meeting Tuesday evening, January 5, at the Business College. The meeting was well attended, and F. E. Tibbits of Geneva gave a very able paper on "Arterio-Sclerosis." The discussion was opened by Dr. Upson of Conneaut, followed by Drs. Flower and Perry.

C. E. Case of Ashtabula gave a very interesting report of a patient who died from a spontaneous rupture of the oesophagus. This was followed with a general discussion of the subject, as the occurrence is so very rare the members greatly appreciated the report.

The name of Mabel S. Watson of Ashtabula was presented for membership.

The annual banquet and fifty-sixth regular monthly meeting of the Lake County Medical Society was held at the Parmly Hotel, Painesville, Ohio, Monday evening, January 4, 1909. The program was as follows:

Payment of annual dues; banquet; toastmaster,

T. M. Moore; minutes of last meeting; installation of officers; reports; miscellaneous business; address by J. A. Dickson of Ashtabula on "Some Reminiscences of a Busy Practitioner."

"Idealism in the Medical Profession,"* by Winfield Scott Hall, Chicago, Primarius of the Alpha Omega Alpha Fraternity.

Hippocrates, "The Father of Medicine," the founder of the medical profession, was an idealist. Should this statement need proof witness the terms, conditions and provisions of the oath to which every pupil of his was asked to subscribe. With this oath of Hippocrates you are all familiar, because every initiate into the ranks of Alpha Omega Alpha subscribes to the spirit of that oath.

In that formula the father of medicine epitomizes in inimitable brevity the whole code of medical ethics; the relation of the pupil-physician to his preceptor, of the practitioner to his confrere and of the physician to his patient and to the home which he enters in the practice of his profession, are all set forth in terms so terse and clear that "he who runs may read."

In accepting the spirit of his oath we accept Hippocrates as our "patron saint," the Patron Preceptor of our Order.

That Hippocrates himself reached the ideal standard of medical ethics as set forth in his formula, no one can doubt. That this standard was far above the actual practice of a large proportion of the practitioners of medicine in his time is beyond question. So Hippocrates was an idealist.

The idealist sets for himself a high mark—his ideal, a visualized plan of life. Idealism is the consistent and persistent striving to attain this ideal. Sublimated idealism sets an unattainable mark; while practical idealism sets a high but attainable mark. Examples of the former are depressing and discouraging; but examples of the latter are elevating and inspiring.

Every vocation—every profession—has its idealists—and so with the medical profession. The advance of any profession is invariably brought about by its idealists—by its practical idealists, who live up, approximately at least, to the mark which each sets for himself.

The medical profession as practiced in modern

*Annual address before the Alpha Chapter of Ohio, of the Alpha Omega Alpha Honorary Fraternity, on the occasion of the dedication of the Cushing Laboratory of Experimental Medicine, Western Reserve University, November 19, 1908.

times is more than any other profession indissolubly linked with service for others, service for society, service for the race. Thus medical idealism becomes almost synonymous with medical altruism. We may well turn to a brief discussion of altruism, for it is here that we shall find the elemental concepts from which we can build up our ideal.

The activities of the lowest living forms may be grouped into two classes—those activities directed toward the nourishment and defense of self, and those activities directed toward the propagation and defense of offspring.

The first law of life is the preservation of self; but the second and higher law is the preservation of others, not of another, but of the others, i. e., of society. Here in the lowest living forms we note subordination of the individual to the face and have foreshadowed the denial of self for the welfare of others—to the race.

Spencer calls "all those activities which, in the normal course of things, benefit others instead of benefitting self—altruism," and adds "then from the dawn of life altruism has been no less essential than egoism." (H. Spencer, *Data of Ethics*, 75.)

The first manifestation of altruism was the division of the primordial parental cell into the two or more cells of the next generation. With this division was made a complete sacrifice of the parental life which was transmitted, together with the material—protoplasm—which was its basis, to the individuals of the next generation. This sacrifice became a physical necessity as soon as the growth of the organism made it impossible for the surface of the cell to imbibe enough nourishment to satisfy the needs of its increased volume.

At this juncture one of two things became necessary—*death* from starvation, or *division* into two or more individuals. Here was the parting of the ways, the path of selfishness (egoism) leading to death through malnutrition, the path of sacrifice (altruism) leading to immortality through posterity.

We may sum the biologist's interpretation of egotism and altruism in the following general principles: (1) All the activities of living organisms may be classified as, egotistic—those that nourish and protect the individual—and altruistic activities invariably involve on the part of the individual sacrifice of self for the good of the race.

The sociologist accepts those fundamental biological principles and finds that they may be applied without essential modification to the

phenomena of human society. He finds, furthermore, that there is manifest in human society a step by step evolution, in which the altruistic impulses and activities gradually gain ascendancy over the egoistic. Maudsley expresses this principle as follows: "The further we go back in civilization, the greater is the preponderance which the egoistic impulses have." (Maudsley, *Body and Will*, p. 164.)

Obeying this law of life every man stands one day at the parting of the two ways; shall he choose the way to self indulgence and self aggrandizement, or shall he enter upon his life work actuated by a desire to lend a helping hand, to lift up the one who has fallen, to stimulate and inspire noble endeavor. In brief, shall he be actuated by egoistic or by altruistic impulses, remembering that egotism brings starvation to the higher life, while altruism brings immortality.

As stated above, every profession affords its opportunities for altruism; but he who chooses the medical profession must do so with the knowledge that to reach the highest usefulness and success as a member of that profession he must subordinate self to the welfare of his fellowmen.

The true physician is solicitous above all for the patient's welfare. He ministers not only to his immediate needs, but seeks to so instruct him that when restored to health he may, by right living, maintain it continuously, thus needing no further professional service from his physician. This is a manifestation of altruism so nearly universal in medical practice, that it is accepted as obligatory and that physician loses caste in his profession if he fails in the discharge of this obligation. The true physician gives no less skillful or faithful service in the house of penury than in the house of wealth, and goes at any hour or in any weather as well as to those who can not as to those who can remunerate him.

This degree of altruism is common to all true physicians. Furthermore, many give liberally toward the establishment and maintenance of charitable institutions which in turn deprive them of some of their patronage.

A high degree of altruism is manifested by those who sacrifice a gain commensurate with their abilities in order to instruct and to inspire, guide and uplift the youth. The work of the true teacher is always altruistic. Why is the teacher so illy paid? Because all that teacher gives of himself is beyond price; but if he has nothing to give save instruction, he is worth less than his meagre salary. If the teacher were paid a high salary it would make that field of activity so at-

tractive that many would enter it for pecuniary considerations, thus robbing it at once of the best efficiency and of the essential altruism.

The teacher must always take a part of this remuneration in the satisfaction which he derives from the molding of a character, in the joy which he experiences in the inspiration of lofty ambition, and in gratification which he feels in the expressed gratitude of his pupils.

Notable examples of great teachers in the medical profession are Hippocrates, Vesalius and our Patron Preceptor, Harvey, Sydenham, William Hunter and John Hunter; Müller, Simpson and Stokes; Bichat, Ludwig and Gross.

John Hunter, "the Newton of Biology," became famous for his lectures notwithstanding he was so diffident that it was painful for him to appear before an audience. He spent the income which he derived from a large practice for the establishment of a museum which he left to the city of London. But the greatest work which he did was to guide and inspire such pupils as Jenner, Clive, Ashley Cooper and Abernethy.

Johannes Müller, the founder of experimental physiology, numbered among his pupils: Hemholtz, Virchow, Brucke, Quincke and DuBois Reymond. Under Müller's masterly demonstrations these men received an impetus which started them into most fruitful fields of research.

Xavier Bichat, the founder of histology, was modest, incapable of envy, sympathetic, self sacrificing and an indefatigable worker. He lectured several times a day on anatomy, physiology, histology and pathology, and directed the laboratory work of eighty pupils. Through septicemia he met an untimely death at thirty. It was said of him: "No one else has ever done so many things in so short a time and so well."

High in the scale of altruism must be placed those men who have sacrificed financial gain, comfort, home and friends for the good of the community, as for example: (1) In leaving home and friends to carry relief to the suffering as in the capacity of a medical missionary; (2) in devoting time and energy to the discovery of means which would bring relief to the suffering, but in whose pursuit practice and income must be sacrificed; (3) in giving freely to the world a discovery which if withheld might bring wealth.

The free giving to the world of a newly discovered world truth has come to be an unwritten law of the profession, and to withhold such a truth for gain causes one to lose caste among scientific men.

Had Jenner chosen to keep his method of vaccination secret, he might have been fabulously rich.

So far from doing this, however, he taught all of his fellow practitioners who desired instruction in his method, and he vaccinated all who thronged to him for that purpose. With hundreds daily standing in line at his door waiting their turn for vaccination, his practice suffered so that he was actually impoverished, until parliament came to the rescue and voted him a competence.

Simpson might have kept secret the nature of the agent (chloroform) with which he produced anesthesia, and by that means might have secured great pecuniary advantages. But Simpson made public demonstrations of chloroform anesthesia, and through his writings spread far and wide the name and nature of this wonderful new substance and taught many practitioners in his Edinburgh clinics the method of its use in surgery and in obstetrics. At first the profession was charmed and the laity delighted. Then some within the profession actuated probably by jealousy began dogmatically to state that operations under chloroform anaesthesia were attended by a greater mortality than were those without such anesthesia. Further, some of the laity discovered that, "as pain is a part of God's plan it is impious and sacrilegious to attempt to make one unconscious of it." To the objections within the profession, Simpson had only to cite the statistics of the hospitals of England, Scotland, and the Continent to prove that on the contrary operations under anesthesia showed only one-half the per cent of deaths shown by the other method. To those who objected on theological grounds, Simpson simply cited the first surgical operation on record. "And the Lord God caused a deep sleep to fall upon Adam and he slept; and God took one of his ribs, and closed up the flesh instead thereof." (Gen. II, 21.) After this the theologians held their peace. Simpson was always ready to sacrifice self for others. He was a great and wise teacher and a skillful practitioner who numbered among his patients thousands of the humble cotters of his native land as well as many of the nobility, and received from Queen Victoria the appointment as "Physician Accoucher to the Queen." He lived to see chloroform in general use and to hear all the world blessing his name. When Simpson died, 30,000 people flocked to Edinburgh to do honor to his name.

Von Behring, who isolated diphtheritic antitoxin and demonstrated its immunizing action against diphtheria, gave his discovery freely to the world. There are today thousands living who but for antitoxin would have fallen victims to that dread disease,—diphtheria.

A small number have manifested a yet higher

order of altruism and, receiving from those who held to the accepted dogma, opprobrium and odium, have sacrificed personal prestige and professional standing in order that truth might be established, suffering alleviated and lives saved.

Vesalius, in daring to question the infallibility of Galens dicta, and to dispute the accepted theories, came into disrepute among his confreres; but he laid the foundations of modern anatomy. Later his work was accepted by the scientific world and he was made physician to his king, Charles V.

Servetus sacrificed reputation and standing at the hands of religious leaders because he taught that the blood circulates through the lungs, which teaching was not acceptable to the men of his time.

Bernardo of London, whose death three or four years ago brought a knowledge of his deeds before the public, gave talents which would have made him famous in his profession to the rescue of waifs and strays. After forty years of this work, carried on through a large part of that period amid the jeers of the populace and the jibes of the profession, he had taken 50,000 children from the gutters and made it possible for them to become useful, self-supporting, self-respecting citizens, leaving the great work well organized, well endowed and well administered. Through a life of unrelenting toil and self-sacrifice, doing a work that was for years unpopular, Barnado won a fame that will be undying, and a name that will be immortal.

While the lowest order of altruism is practiced by all true physicians, we note that as we study the successive higher orders of altruism we find progressively fewer and fewer physicians attaining these higher orders. One might say that *the higher the order of altruism the fewer there are that attain it.*

Voluntary endangering of life in order that other lives may be saved is the highest order of altruism. This height of sacrifice has been attained by a comparatively small number only; a number, however, that should include the names of many unknown heroes who have gone to this death while ministering to the sick in plague-stricken places, leaving no record of their heroism.

Sydenham, although he possessed a feeble constitution, went to plague-stricken London and devoted himself to the efficient relief of the victims at the risk of his own life (Rush, Lectures, p. 61). We recognize in Sydenham also the elements of a great teacher and the heroism of the independent investigator, who, out of harmony with the accepted dogma, brings disapprobation upon himself in order to establish truth.

Benjamin Rush, who had reached a point in statesmanship which afforded him the distinction of signing the Declaration of Independence, gave up all thoughts of political preferment to follow his profession. Taking his life in his hands he went unhesitatingly into the terrible yellow fever epidemic of 1793 in Philadelphia, and by his untiring effort, his skill and his wisdom, fought successfully against the disease. Besides rising to the sublime heights of altruism in his fight against yellow fever, Rush was a master teacher, a sympathetic, self-sacrificing physician, and a loyal patriot. He has been called the "American Galen."

Lazear, a recognized teacher of clinical microscopy, left his field of service to go to Cuba and study the yellow fever problem. In the discharge of this work he exposed himself constantly to the disease, immensely aiding in its treatment, and in the prevention of its spread; but losing his life in the furtherance of a knowledge which has put into the hands of the medical profession and of the state a means of checking the further spread of this dreaded disease. Thus Lazear laid down his life, but he saved unnumbered thousands of others.

The Cushing Laboratory of Experimental Medicine which this institution is dedicating is itself the embodiment of an ideal. Its plan, its equipment, and the policy of its future activities are ideal. The men who will direct these activities are idealists in the highest, best sense of that term. The truths discovered in its laboratories and expounded in its lecture rooms will be primarily for the alleviation and extinction of human suffering and ultimately for the elevation and extension of human happiness.

SIXTH DISTRICT

E. P. MORROW, Collaborator.

The annual meeting of the Stark County Medical Society took place January 21. The program was as follows: "Prevailing Diseases and Therapeutics," J. F. Marchand; "Surgery," H. P. Pomerene; "Obstetrics—Mammary Abscess," S. S. P. Barnes; "Diseases of Women and Children," E. J. March; "Hygiene and Sanitation," J. P. DeWitt; "Ethics and Legislation," J. F. Kahler. Councilor's report, Sixth district, T. Clark Miller; report of secretary-treasurer, G. F. Zinnerger; president's address, "The Physician, His Duty and Rights," J. C. Temple. Dr. W. H. Wiley, Washington, D. C., chief of the Bureau of Chemistry, Department of Agriculture, delivered a public address at the First M. E. church, Canton, O., Thursday evening, January 21, 1909.

SEVENTH DISTRICT

S. O. BARKHURST, Collaborator.

The regular meeting of the Jefferson County Medical Society was held on Tuesday, January 12, at Steubenville. The following was the program: Reading minutes of last meeting; clinical cases; reports of clinical cases; "Some Interesting Post Mortem Intestinal Findings," by E. Pearce.

The Monroe County Medical Society met in regular session January 5. The following officers were elected for 1909: J. W. Norris, president; J. W. Webber, vice-president; J. R. Parry, secretary and treasurer.

At a meeting of the Harrison County Medical Society held at Cadiz December 22, Charles McGavran of Columbus gave an interesting address on "The Serum Diagnosis and Treatment of Tuberculosis." Discussed by Drs. S. B. McGavran, O. A. Hess and R. P. Rusk. The following officers were elected for the ensuing year: Ward Anderson, Scio, president; O. A. Hess, Harrisville, vice-president; R. P. Rusk, Cadiz, secretary and treasurer.

EIGHTH DISTRICT

CHAS. H. HIGGINS, Collaborator.

At the January meeting of the Muskingum County Medical Society J. R. Lyon reported a case of septicemia following an injury of the ball of the thumb, caused by a nail. The nail had penetrated in a slantwise direction to the depth of about an inch. A physician was called and injected turpentine into the wound. In less than four hours Dr. Lyon was called and found that the wound was very much swollen, reaching almost to the elbow. The following morning the whole arm was edematous and the patient had considerable fever. In about a week after the injury an abscess formed in the forearm. The question as to whether the edema and initial pain was due to septicemia or to the injection of the turpentine was discussed. The early appearance and pain seemed to suggest the turpentine as the cause and the abscess formation as due to secondary streptococcal infection seemed the most probable explanation. The discussion developed that it was a common practice for the laity to use turpentine on fresh wounds, and none of the physicians taking part in the discussion had seen any harmful results from its use.

C. M. Lenhart reported a case of operation for appendicitis upon a 5-year-old child. The child had, shown very few of the typical text-book symptoms of appendicitis, and consequently an exact diagnosis could not be made early in the case. The pain was high up in the abdomen, and

neither the pulse and temperature record nor the condition of the digestive functions was of diagnostic value. The operation revealed appendix fully distended with pus. The child made an uneventful recovery.

At a meeting in joint session of a committee from the Licking County Medical Society, consisting of Dr. A. T. Speer, Dr. J. P. H. Stedem and Dr. B. F. Barnes, and a committee from the Newark Druggists' Association, consisting of Messrs. F. D. Hall, A. F. Crayton and R. W. Smith, held Friday, January 8, 1909, to consider the question of the handling of intoxicating liquors, it was decided that the law and rulings with reference thereto be carried into effect fully, and that the laws and regulations affecting same be published in the local papers for the information of the public.

The 173rd regular meeting of the Muskingum County Medical Society was held Wednesday, January 13. The following was the program: C. E. Monfort, "Tonsillitis;" J. R. Lyon, "Traumatic Septicemia;" C. M. Lenhart, "Operation for Appendicitis on a Child of 5 Years With Recovery."

NINTH DISTRICT

S. P. FETTER, Collaborator.

The Jackson County Medical Society met in regular session January 5. Fred Fletcher, the secretary of the Columbus Academy of Medicine, read a very interesting paper on "Appendix Questions," and J. E. Sylvester lectured on "Carcinoma of the Breast," and presented several specimens. The county society decided to take up the post-graduate work of the American Medical Association, forming two classes. J. J. McClung was elected director of the class at Jackson and J. E. Sylvester director of the class at Wellston.

The following officers were elected for the ensuing year: President, Gomer E. Jones; vice-president, J. S. Hunter; secretary, W. J. Ogier; treasurer, D. W. Davis; consul, W. H. Parker; delegate, W. H. Parker; alternate, W. R. Evans; member of legislative committee, J. H. Ray.

The Gallia County Medical Society met Wednesday, January 6, at the City Hall. William Miller gave his annual address, entitled "The Scope of the County Society." It was so pregnant with good thoughts that the secretary was ordered to have typewritten copies made thereof to distribute among the members of the society.

S. P. Fetter had a paper which he had prepared and read before the Men's Civic Club of Gallipolis, the title of which was "An Appeal for

the Prohibition by Law of the Sale of Patent or Secret Formula Remedies." Both papers created a great deal of discussion.

G. G. Kineon was elected secretary in place of Jehu Eakin, who was unable to serve.

Annual address of the president, William Miller, Gallia county:

I have selected for my subject "The Scope of the County Medical Society." In the constitution of the Gallia County Medical Society, Article II, we find the following: "The objects of this society shall be the advancement of knowledge upon all subjects connected with the healing art; the organization of the profession in connection with the American Medical Association and the Ohio State Medical Association; the elevation of the character and the protection of the rights and interests of those engaged in the practice of medicine, and the study of the means calculated to render the medical profession more useful to the public and subservient to the interests of humanity."

In Article IV, Section 7, there is a solemn obligation or declaration which every member is supposed to make, as follows: "Having been duly elected a member of the Gallia County Medical Society, you do solemnly pledge your honor that so long as you shall continue as a member of the same you will comply with all the laws and regulations and use your best endeavors to promote its objects?" To which the member-elect shall respond affirmatively.

Again from Article C: "This society adopts as a part of its regulations, binding upon all its members, the code of ethics adopted by the American Medical Association."

1. The first subject in order is the "advancement of knowledge upon all subjects connected with the healing art." This includes a knowledge of all diseases we may be called upon to treat, as well as all other subjects which are included in the courses of medical education. To this end the American Medical Association Bulletin for September, 1908, has given an outline for a post-graduate course for the use of county societies. The adoption and persistent study of such a course would certainly be highly beneficial to the members of the society. What we have done on the line of medical educational work in the past few years has certainly been creditably done, yet with a full attendance and earnest co-operation results much more far-reaching in effect would have been attained.

2. Organization in connection with the American Medical Association and the Ohio State Medical Association has been formally accom-

plished. However, we have not acquired the full quota of zeal that such an organization implies. We need a baptism of enthusiasm, and that by immersion; no mere sprinkle will suffice. We endorse in our constitution the code of the American Medical Association, yet never refer to it or intimate that we expect the members of our society to practice its precepts. It might be a good thing to see that every physician has a copy of the code, and possibly some who are not physicians. It can hurt nothing for any one to read the code, for its principles can but have a good effect upon all. Many a misunderstanding would be avoided if the laity were posted as to code requirements, and physicians would then have a greater incentive to act in accordance with its requirements.

We should frequently take up for short discussion state and national topics. It is with the county society that many of the medical reforms and advance steps in medicine have had their origin. We should contribute our mite toward this work.

3. Another point in our preamble is the "elevation of the character and the protection of the rights and interests of those engaged in the practice of medicine." What, in a special way, are we doing toward the elevation and the protection of the rights and interests of those engaged in the practice of medicine? Every whit of good work we do either in or out of the medical society tends to elevate the individual who does the work. Every good work done collectively elevates the society and the local profession. We should make our mark on the community by taking action on every moral and civil question having any vital effect upon our profession. We should notice such things and let the people know that we notice them. If our code of medical honor needs to be elevated, let us study the code of ethics. If trouble appears as to fees, especially as to the uniformity of fees, let us follow the suggestions of that same code and arrange a county fee bill. I believe this should be done. We should instruct our secretary to place a notice of our meetings in the local papers a week before the date of meeting, and to give a modest mention of what has been done at the meetings to the local editors of papers, omitting those things not especially interesting to the laity. The local editor would be glad to receive this as local matter for the paper. Let us give a little more attention to the business side of our organization, but not relax an iota in the real professional part of the work.

I believe that we, right here in Gallia county, should begin to make ourselves felt on the nos-

trum question. We cannot do all we would wish at once, but that is not excuse for doing nothing. It is a good time NOW to take up such things. It little matters to us what is done in New York, Philadelphia, Chicago and other places. It is with what is here that we have duties to perform. We have quacks and nostrums right here. What we do on these subjects would be better done as a body, perhaps, but we should not be cowardly as individuals. If laws are being violated we should take the matter in hand. If the honor of the profession be threatened, we should defend it.

4. The next point is the "study of means calculated to render the medical profession most useful to the public and subservient to the interests of humanity." In following out the requirements of the last topic, we should go far toward filling the requirements of this one. If we elevate the profession, we make it more to subserve the interests of humanity. By studying and teaching hygiene and all preventive medicine, by encouraging boards of health in all rational advance work, by placing in the limelight of publicity all quack methods either by physicians or druggists, by exposing their methods and the composition of their nostrums, we would subserve the interests of humanity.

Are we in earnest or do we merely pretend the things contained in the preamble of the constitution of our county medical society? Let us expunge them or live up to them. Let us re-read the declaration we each have tacitly made: "Having been duly elected a member of the Gallia County Medical Society, do you solemnly pledge your honor that so long as you shall continue a member of the same you will comply with all its laws and regulations and use your best endeavors to promote its objects?"

As a part of the program for the coming year, I would suggest the following subjects as appropriate:

1. An intimate knowledge of and a clear understanding of the code.
2. Some practical action on quack methods and nostrums.
3. We should establish a county fee bill as a guide for remuneration and medical services.
4. It would be advisable to adopt a course for county post-graduate work.
5. We should talk medical society to our colleagues until we make them feel that they have an interest in it.
6. We should see that more medical topics, especially as to the county organization, get into the local papers—not in the way of the sensational, but as to matters of general medical interest.

Let us make our organization more an active one. We have been too nearly passive. In some phases of our work we have been in a condition allied to that described by a deceased ex-president of the United States as "inocuous desuetude." We need to acquire some of the quality of the present occupant of the executive chair, known to some as "strenuosity." Much zeal is needed to make any work a great success, and every great success has been achieved by overcoming opposition. We should expect opposition. We should meet it fairly and courageously. We cannot expect things which we alone can do to be done by others. The field lies before us; let us occupy it, peaceably, if we can; if not, then by conquest.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

A meeting of the Crawford County Medical Society was held December 23. At this meeting a report of the Board of Censors was read by the secretary, representing W. C. Gates as violating the code of professional ethics in a manner unbecoming to a physician and a member of his society. After hearing the charges a motion was passed unanimously that W. C. Gates be expelled from the Crawford County Medical Society.

A motion was also passed that the secretary ask all newspaper editors in Crawford county to not publish the names of physicians where giving accounts of operations or illness.

The annual banquet of the Delaware Medical Society was held in December, to which the wives of the medical fraternity and other ladies were invited. The banquet was served at the Delicatessen shortly after 9 o'clock, and was attended by about thirty people. Three elegant courses were served by Richards Brothers, and following a brief but enjoyable program of short responses to various subjects was given. F. L. Gage, the retiring president of the society, introduced Dr. Hughes, who, as toastmaster, called upon Drs. E. M. Semans, Kearney, Chidester, Miller and Murray for responses. Preceding and following the banquet, Mr. Chase rendered several much appreciated vocal solos, and Miss Olds several piano selections. The occasion was a very enjoyable one.

At the regular meeting of the society at the court house, preceding the banquet new officers were elected for the ensuing year, as follows:

President, W. L. Woodworth; Vice President,

A. J. Pounds; Secretary, G. W. Morehouse; Treasurer, Ivadel Rogers; Censor, William F. Crickard; Delegates, C. W. Chidester and J. K. James.

The retiring president, F. L. Gage, addressed the society in a general address, as is customary at the closing meeting of the term.

Resolutions were passed asking the Delaware county representative, Hon. Harry Crist, to vote for C. A. L. Reed for senator to succeed Senator Foraker. Drs. Miller, Chidester and Day were appointed a committee to present these resolutions to Mr. Crist.

The following is a list of officers of the Madison County Medical Society for the ensuing year: President, A. J. Strain, London, O.; Vice Presidents, A. F. Greene, West Jefferson, O.; Frank Whitford, Sedalia, O.; Secretary and Treasurer, A. C. Delaplane, South Solon; Member House of Delegates, F. L. Wilson, South Solon; Member of Auxiliary Committee, W. H. Christopher, London.

At the annual meeting of the Columbus Academy of Medicine, held December 21, 1908, Charles J. Shepard was elected president; J. A. Van Fossen, vice president; Fred Fletcher, secretary; R. B. Smith, treasurer, and J. U. Barnhill and P. D. Shriner, delegates to the State Association. J. H. J. Upham, E. J. Wilson, F. F. Lawrence and J. M. Dunham were named trustees.

At the regular meeting, January 4, the new officers were installed and the following program carried out: "Tuberculous Peritonitis," J. H. J. Upham; "The Surgical Aspect of Tuberculous Peritonitis," F. F. Lawrence. Discussion, Winders, Rankin, E. M. Gilliam, W. J. Means, Lisle, Wardlow, E. A. Hamilton, McGavran and Baldwin.

C. F. Bowen presented X-ray photographs of several interesting cases. First, an X-ray photograph of the entire abdominal region which showed some fifteen or twenty stones in the right kidney. At the operation the stones were found as shown in the photograph.

External photographs and X-ray pictures were shown of a (1) a tuberculous ulcer of the ankle, and (2) a tuberculous ulcer of the forearm. Both of the cases had been treated locally without result. An X-ray examination disclosed a tubercular involvement of the bone, which undoubtedly had considerable to do with the ineffectiveness of the local treatment.

John Rauschkolb presented a specimen of "Fish Berries"; speaking briefly of the history of the

drug, its toxic effect, and its value as a therapeutic agent in pediculi.

J. F. Baldwin presented a specimen of gall bladder which he had removed a few days before. Its walls were remarkably thick, and the entire fundus occupied by a rather deep ulcer. It had been filled with muco pus, and two small gall stones had been present. The symptoms (the patient being very fleshy) were unusually obscure, and the case required careful study to enable a diagnosis to be reached.

The same surgeon also presented photographs of a physician upon whom he had operated for the restoration of a lower lip which had been entirely removed by another surgeon for cancer. In this case he was able to make the inner surface of the new lower lip of scar tissue, carefully dissected up, and the outer surface of a bridge-flap taken from below the chin and placed in position above a fixed point secured by leaving an island of skin, corresponding to the chin itself, in which was implanted the elevator of the lower lip, so that the patient was able to elevate the lip about as usual. The second photograph showed the lip as thus restored and healed, giving the patient perfect control of food and saliva, and with a lip which was so nearly normal as to attract no attention.

Regular meeting January 1, 1909. "Some Observations on Gastro-Enterostomy," A. E. Hamilton; "Gastric Findings With Practical Methods of Examination and Treatment," J. M. Rector. Discussions: Drs. Means, Dunham, Howell, Waters, Warner, Upham and W. D. Hamilton.

Frank Warner presented plaster casts and described a technique for the successful making and fitting of arches in the cure of flat foot. The report was discussed by A. L. Steinfeld.

Francis W. Blake called the attention of the Academy to a window tent made at his suggestion by a local firm. The features embodied in the design are those of a closed tent of canvas to extend over the head of the bed, and a flannel curtain to roll under the edge of the bed clothes, attached to protect from inclement weather. The tent and awning fold flat upon the frame, which is attached to the window casing by two hooks. Thus the whole device can be readily removed and set aside during the day, as it occupies a minimum amount of space.

Dr. Rector said in part: Previous to the fifth or sixth week of the life of the human embryo, the stomach is parallel to the axis of the body. After this time, the pyloric end is lifted upward and to the right, but never under normal conditions does it reach an elevation equal to that

of the cardiac as shown in nearly all of the illustrations in our text-books. It remains funnel-shaped, with the pylorus almost at the lowest point.

When food is taken it runs along the greater curvature to a point where the stomach walls are being constricted by a transverse band. This narrowing occurs during digestion, dividing the stomach into two distinct parts. This condition is a type of the segmentation which continues throughout the entire intestines, and was first described by Ludwig.

When small meals are taken at frequent intervals, there is not sufficient bulk to separate the walls and allow the food to get through into the pylorus where it can be digested, but it remains in the fundus fermenting, losing its food value and causing flatulency and discomfort to your patient. There is no mixing of the food in the two parts of the stomach, and the fundus does out the food to the pylorus at intervals of about ten to fifteen seconds, corresponding to the peristaltic waves. At this same interval the food in the pylorus spurts into the duodenum. This can be heard with a stethoscope in thin subjects.

Grutznier studied sections of frozen stomach of animals after they had been given foods of different kinds, and discovered that as the food is eaten it enters the center of the mass in the fundus displacing the contents outward.

The mixture of carb. and proteid begins to leave the stomach in three or four hours, and fat, olive oil, butter, or indigestible food such as bran dust added to either mixture not only delays the beginning of the expulsion of food, but they remain for some time after the other foods are expelled. This accounts for the well-known indigestibility of pork and veal.

Considering the mechanical disarrangement brought about by gastro-enterostomy and the chemical deficiency in achylia, the most satisfactory explanation of the pyloric activity is that of a sympathetic neuro-muscular mechanism like that occurring at the cardia when swallowing. This causes the pylorus to relax as the peristaltic wave reaches it, and to open, if the food is of the proper consistency, and does not excite reflex closure.

In foetal life, the alimentary tract is almost complete, and is performing some of its functions before the central nervous system is developed. In the adult Auerbach's plexus, which is located in the circular and longitudinal muscular layers of the alimentary tract, is connected with the splanchnic or vagus nerves by sympathetic fibers. The splanchnic are the inhibitors and the vagus

the accelerators. The peristalsis of the stomach and intestines and the reflex control of the pylorus and the reverse peristalsis in the transverse colon continue normal for months after the vagus and splanchnic nerves have been divided (Nehring, Cannon), proving that these organs are almost independent of the central nervous system. However, the effect of pleasant anticipations in the way of food or unpleasant emotion upon the central nervous system have their result as the efferent impulses are carried by sympathetic nerve fibers. This accounts for the suspension of all digestive activity during pain or exposure of the peritoneum by perforation or surgical operation.

Locating the stomach, finding the amount of retention, and thus the motor ability, are the most important determinations to be made.

The quantity taken at test meals must be measured so that in recovering the meal the amount which has passed out of the stomach may be known. In order to recognize this, the entire contents of the stomach must be recovered, and this can only be done by using the double tube and expulsion method with compressed air. The ordinary syphon tube is uncertain and incomplete and uniform results cannot be had by this method.

All dyspeptics, and people suffering from disturbed metabolism are more or less depressed and mentally disturbed. Before mentioning any prescription or treatment, have your patient tell you everything he knows and thinks about his condition. This unburdening or confession relieves him of a great load, and if properly received and appreciated by the physician, will increase the patient's confidence and faith in his ability to select a doctor who understands and is interested in his case. Follow this history by most careful physical examination and clinical verification of the symptoms, then explain to your patient as fully as you think best. Assure him that you know all about his condition at present, and the effect and feelings which the future treatment will bring forth. Then tell him plainly and firmly that when you want to know anything more of his case, you will ask him, and he is not to burden his mind or try to analyze his symptoms and results so as to have something new to tell the doctor at each visit. The mental condition and the sympathetic nervous system have such direct and lasting influence upon the motor and secretory function of the alimentary canal that they must be directed and controlled. These morbid fears and disturbing self-analysis of symptoms can only be displaced by substituting

cheerful, helpful ideas, leading up to the regular and protective habits which you expect your patient to acquire during treatment and practice daily.

All the easing of pain, relieving of suffering and disappearance of sickness and the cures attributed to Christian Science are directly due to the great executive in man, which is not the mind, but a higher power called the will. The will is a specific and positive stimulus to nervous matter, and when this function is continuously exercised without sufficient remittance for rest and recuperation, the muscle or series of muscles to which this constant stimulus is sent will waste to shreds, and the motor nerves and the muscle will both be ruined. (Example, glass arm of ball pitchers, and telegraphers palsy.)

Apply these facts to the case of an illy-nourished individual whose will is constantly directing his mind and connecting motor nerves to the muscles and secreting glands of the digestive apparatus, by wondering what does my appetite crave? Can I eat this or that, and will it cause the same old pain? Is it any wonder that the alimentary tract becomes deranged, or should it be considered exceptional that this abnormal action of the mind and will must receive consideration before your patient can be cured?

A very successful meeting was held by the Madison County Medical Society in London on January 6. The following papers were presented at the afternoon session.

"The Illegal Practitioner of Medicine from a Legal Standpoint," by Hon. U. G. Denman, Attorney General of Ohio. The speaker outlined the scope of the medical laws and asserted that it was his intention to take an active rather than a passive interest in matters tending to their enforcement. It is the interest of the public welfare to maintain a high standard in the medical profession, and he hoped to help in this direction by vigorously prosecuting those guilty of violation of the laws, especially in such crimes as criminal abortion.

"Criminal Abortion," by J. H. J. Upham, Columbus. The speaker drew attention to the frequency of this crime, not only among the illegitimately pregnant, but also in the married. He mentioned the *various* causes for the wish to avoid child bearing, and the prevailing ignorance as to the legal and moral crime involved.

He maintained that while the medical profession is obligated to educate the people on the serious dangers to health of such unwarranted in-

terference with pregnancy, and that it might at the same time draw attention to the moral wrong, it was above all the duty of the church to properly take up that question and instruct its members. The Protestant churches are shirking their obligations in this direction; they are losing the intimate touch with their members and neglecting a duty which is plainly indicated. The Catholic church is setting an example, which shows what can be done, and which should be emulated.

The laws against criminal abortion are inadequate. More can probably be accomplished by bringing charges against a medical abortionist before the State Medical Board for revocation of license than by criminal prosecution.

The cooperation of the medical profession and the church, however, in educating the public will do more to stop the practice than any number of stringent laws.

"Syphilis," M. L. Heidingsfeld, Cincinnati. Dr. Heidingsfeld delivered an exceedingly instructive and interesting lecture on the manifestations of syphilis, illustrated by very graphic lantern views of actual cases.

Evening Session.—"Why Tuberculosis," by Charles S. Bond, of Richmond, Ind. This was an illustrated lecture to the public, and proved an exceedingly interesting address. A large attendance greeted the speaker, and enjoyed his able presentation of the subject.

PROGRAM FOR POST-GRADUATE STUDY.

It has been requested that the programs for post-graduate study, arranged for county societies, be published in the JOURNAL. In accordance therefore this will be done in the future.

SECOND MONTH.

INFECTION, IMMUNITY AND SERUM THERAPY.

FIRST WEEKLY MEETING.

INFECTION.

[This subject to be divided among three members as indicated.]

Infectious Agents.—I. Living (pathogenic parasites). A. Macroparasites (pediculi, etc.). B. Microparasites: (1) Bacteria (fission fungi). (2) Fungi of complex organization (aspergillum). (3) Protozoa (plasmodium malarie). II. Non-living (toxins). A. Animal toxins (snake venom). B. Vegetable toxins: (1) Non-bacterial (abrin, ricin). (2) Bacterial: a. Soluble bacterial toxins (diphtheria). b. Intracellular bacterial toxins.

Sources of Infectious Agents.—a. Occurrence in healthy beings; on skin and mucous membranes, in saliva, intestinal excreta, urine, bile, etc., "bacillus carriers." b. Transmission by animals: 1.

Suffering from transferable diseases, anthrax, tuberculosis. 2. Mechanical carriers of germs, flies. 3. Intermediate hosts, mosquitoes. c. Aerial infection, exanthemata, tuberculosis, etc.; dust infection, droplet infection. d. Water-borne infection, typhoid, dysentery, etc. e. Soil and infection. f. Food and infection.

Routes of Infection.—Skin, conjunctiva, mucous membrane of respiratory and digestive tracts, genital tract, selective invasion as cholera vibrio in intestine.

Dissemination of Pathogenic Germs.—Local, as tetanus bacillus, toxins being absorbed; direct extension, erysipelas; blood metastases, pyemia; lymphatic metastases, infected wounds; mechanical extension, aspiration pneumonia.

Elimination of Infectious Germs.—Direct, in abscesses, conjunctivitis, diphtheria, etc. Indirect, through blood into urine, bile, milk, etc.

Latency of Microbic Infections.—Diphtheria bacilli in throat, typhoid bacilli in gall bladder or periostitis, recurring attacks of malaria and rheumatism, bacteria in immunized persons and animals.

Mixed and Secondary Infections.—Variations in intensity of primary and secondary invaders.

Products of Infectious Agents.—Toxins, bacterio-toxins, bacterial hemolysins, phytotoxins. Endotoxins. Bacterio-proteins.

General Resistance to Infectious Agents.—Degrees of virulence of pathogenic bacteria.

Symptoms Due to Infectious Germs.—Period of incubation. Local effects, serous, fibrinous, suppurative, diphtheritic, hemorrhagic, necrotic and proliferative changes. Leucocytosis; effects on red corpuscles, hemolysins, hemagglutinins; changes in blood-making organs, spleen and bone marrow. Parenchymatous degenerations in heart, kidney, liver, spleen. Changes in nervous system. Fever, due to different substances in blood, crises and recurring fevers. Effects on metabolism; due to changes in intake, chemical and in amount; to changes in output, as albumin through diseased kidney, loss in diarrhea, etc.; changes in chemical processes in body. Formation of antibodies; antitoxins, amboceptors, agglutinins, precipitins and opsonins.

SECOND WEEKLY MEETING.

IMMUNITY.

[This subject to be divided among four members as indicated.]

Definition.—Natural and acquired, inherited (animal species, or family or individual), active and passive, antibacterial and antitoxic, phagocytic (intracellular). Non-susceptibility. Historical: Theories of cause of immunity (a) exhaustion theory, (b) noxious retention theory, (c) phagocytosis. Bacteriolytic power of serum, discovery of toxins and antitoxins. Define alexins, cell receptors, hemolysins, cytotoxins, agglutinins, precipitins, of normal serum.

Side-chain Theory of Ehrlich.—Side-chain theory of nutrition; its application to process of immunity.

Toxins and Antitoxins.—Properties of toxins; secondary toxins, toxons, toxoids, prototoxoids, endotoxins. Ehrlich's side-chain theory; action

center or nucleus (benzol nucleus), cell receptors, haptophore, excess of side-chains thrown off forming antitoxins, receptors of first order. Antigens and antibodies. Preparation and standardization of toxins and antitoxins. "Negative phase" and "positive phase" of inoculation with antigens.

Agglutinins and Agglutination.—Normal and immune agglutinins, agglutinogens, agglutinoids, coagglutinoids, organisms producing agglutinins, variations in quantity, distribution in body, specificity of agglutination, "group agglutination." Technic of test, microscopic and macroscopic reactions. Agglutinins, receptors of second order with haptophorous and zymotic groups.

Precipitins.—Bacterioprecipitins, phytoprecipitins, zoöprecipitins. Precipitonogen, precipitin and precipitate. Formation of precipitin, receptor of second order with haptophorous and ferment-like groups. Forensic use of precipitins.

Bactericidal Serums.—Alexins, bacteriolysins, phenomenon of Pfeiffer, inactivation and reactivation, specificity of bactericidal serums, effect on endotoxins, standardization of serums. Amboceptors and complements. Amboceptor, thermostabile body with two haptophore groups, cytophile and complementophile. Complement has haptophore and toxophore groups, effect of dilute salt solutions. Antiamboceptors and anticomplements. Specificity. Receptors of third group.

Opsonins. Phagocytosis.—Leucocytes, intraleucocytic cytase and fixators, effect of serum on leucocytes, change of toxin by leucocytes. Opsonins in serum render bacteria more easily taken up by leucocytes. Sensitized bacteria. Opsonins destroyed by heat, deteriorate quickly, have haptophorous and opsoniferous groups. Normal and immune opsonins, bacteriopsonins and hemopsonins. Method of producing opsonins. Value in different infections. Technic of Wright's opsonic index.

Cytotoxins.—Definition, structure, theoretic value, immunization with tissue cells. Spermatotoxin, leucotoxin, nephrotoxin, antinephrotoxin, hepatotoxin, neurotoxin, syncytiotoxin, thyrotoxin, pancreotoxin.

Varieties of Immunization: 1. Against living microbes. 2. Against microbic poisons.

Methods of Immunization.

I. Active Immunization. 1. Prophylactic Remedies: a. Immunization by attenuated living virus, Jennerian vaccination. b. By infectious agents killed by heat, etc., Haffkine's cholera and plague vaccines. Wright's typhoid vaccine. c. With bacterial products, Koch's old tuberculin. 2. Curative Remedies: Koch's old and new tuberculins, T. O. and T. R., Wright's pneumococcus and staphylococcus vaccines.

II. Passive Immunization (Serum of Animals Actively Immunized). Prophylactic and Curative Remedies: a. Specific antitoxic sera, diphtheria, tetanus, dysentery, etc. b. Specific bactericidal sera, typhoid, cholera, dysentery (Shiga). c. Bactericidal action assumed, not proved, antistreptococcus, antipneumococcus and antiplague sera.

III. Combined Active and Passive Immunization. Serum and vaccine, plague, etc.

THIRD WEEKLY MEETING.

PRINCIPLES OF SERUM THERAPY.

INJECTIONS.—1. Prophylactic, (a) active, (b) passive, (c) mixed. 2. Curative, (a) active, (b) passive (with antitoxic or antibacterial serums).

A. Antitoxins.—Success depends on: (1) Concentration (strength) of antitoxins. (2) Its freedom from contamination. (3) Time of administration. (4) Quantity injected. (5) Degree of affinity between (a) toxin and antitoxin, (b) toxin and tissue cells. (6) Amount of toxin which may be bound without fatal issue. (7) Accessibility of toxin.

B. Bactericidal Serums.—Of low curative and prophylactic power: 1. Because they are not antitoxic. 2. They may liberate excessive amount of endotoxin by dissolving bacteria. 3. The lability of exogenous complement. 4. Power of tissues to absorb complement of a foreign serum. 5. Lack of sufficient amount of suitable complement in human body. 6. Difficulty of obtaining amboceptors for which human complements are suited. 7. Possibility of diversion of complement by excess of amboceptors. 8. Inaccessibility of bacteria in certain infections.

C. Vaccination.—Use of attenuated or killed cultures, or toxins, or unknown agent (smallpox) by inoculation, producing active immunization, with formation of specific antibodies. Negative and positive phases in production of antibodies; nature of antibodies, amboceptors, opsonins, antibacterial or antitoxic agents.

INFECTIOUS DISEASES IN WHICH IMMUNITY OCCURS.

[This subject to be divided among five members as indicated.]

I. ACQUIRED IMMUNITY IS CHIEFLY ANTITOXIC.

A. BACTERIAL DISEASES. 1. Diphtheria. *Bacillus diphtheriae*, morphologic and staining characteristics. Infection from (1) infected persons, (2) convalescents, (3) healthy bacillus carriers, (4) latent cases. Transmission by direct or indirect contact, droplet and dust infection. Pathogenesis. Location of bacilli, formation of toxin, local effects, formation of membrane, receptors in organs and tissues of body. Effect of mixed infections. Susceptibility and immunity, active immunity solely antitoxic. Presence of leucocytosis. Serum therapy prophylactic and curative. Diphtheritic paralysis, relation to antitoxin treatment, presence of toxin.

2. Tetanus. *Bacillus*, cultural and staining characteristics, habitat, street dirt, manure, intestinal tract of man and animals, soiled clothing. Infection, in wounds anaërobic conditions, presence of foreign bodies and necrotic tissue. Mixed infections. Pathogenesis. Localization of bacilli, two soluble toxins, tetanospasmin and tetanolysin, effect of each. Susceptibility and immunity, varieties of tetanus. Antitoxin, value as prophylactic, curative value. Methods of using antitoxin.

3. Botulism. Meat poisoning. Symptoms due to toxin not bacterium. Affinity of toxin for nervous tissue.

4. *Bacillus pyocyaneus*. In local and systemic infections. Produces pyocyanin, pigment, ferments, toxin and endotoxin. Agglutinin.

B. PLANT TOXINS. 1. Hay Fever. Toxin found in pollen of rye, barley, wheat, corn, dog's tail, couch-grass, millet, rice, goldenrod, rag-weed and others. Pathogenesis. Effect of toxin on conjunctival, nasal and bronchial mucous membranes. Preparation and use of antitoxic serum (pollantin). 2. Ricin, abrin, erotin and robin. "Phallin" from *Amanita phalloides*.

C. ANIMAL TOXINS. 1. Snake Venoms. Consist of neurotoxin, hemolysins and hamagglutinins, hemorrhagin, leucocytic toxins, ferments. Antivenins and toxoids in production of immunity. Curative value.

FOURTH WEEKLY MEETING.

INFECTIOUS DISEASES IN WHICH IMMUNITY OCCURS.

(Continued.)

II. ACQUIRED IMMUNITY IS CHIEFLY ANTIBACTERIAL.

A. TYPHOID FEVER. *Bacillus typhosus*, cultural growth, endotoxin. Pathogenesis, localization of bacillus in body, changes occurring in structures, in organism, effects of endotoxins on body. Diagnosis by blood examination. Susceptibility and immunity. Acquired immunity, effects on blood serum. Serum therapy, use of antitoxic serum. Vaccination or inoculation, use of vaccine, Wright's method.

B. PARATYPHOID FEVER.

C. ACUTE EPIDEMIC DYSENTERY. Two bacilli, Shiga and Flexner types: characteristics and differentiation. Distribution in body, pathogenesis, effects of toxins. Immunity. Vaccination and serum therapy.

D. MEAT POISONING FROM *BACILLUS ENTERIDIS*. *Bacillus*, occurrence in meat, effect of heat, pathogenesis.

E. *BACILLUS COLI COMMUNIS*. Characteristics, distribution in body in infections, colon bacillus cystitis, diarrhea.

F. CHOLERA AND PLAGUE.

III. ACQUIRED IMMUNITY IS OF SHORT DURATION.

A. PNEUMOCOCCUS INFECTIONS. Organisms found, distribution in body, entrance of organisms into lung. Immunity. Serum therapy.

B. STREPTOCOCCUS. Organisms, occurrence and distribution in body, varying infections, pathogenesis. Immunity and susceptibility. Univalent and polyvalent serums. Serum therapy in different infections.

C. STAPHYLOCOCCUS. Varieties of organism, products, effect on body, distribution in body, differs in effect from streptococcus. Serums. Vaccination and opsonic index in staphylococcus infections.

D. GONOCOCCUS. Characteristics, distribution in body, serum therapy.

E. MENINGOCOCCUS. Organism, characteristics, pathogenesis. Flexner's serum. Other organisms found in meningitis.

F. INFLUENZA *BACILLUS*. Characteristics, distribution in body, pathogenesis, immunity.

IV. CHRONIC INFECTIONS. NO PERMANENT IMMUNITY.

A. TUBERCULOSIS. Organism, virulence, toxic products, "tuberculin," susceptibility, immunity,

active immunization, mixed immunization and vaccination. Value of tuberculin in diagnosis.

- B. LEPROSY.
- C. ACTINOMYCOSIS.
- D. OIDIOMYCOSIS.

MONTHLY MEETING.

The Present Status of Serum Therapy.
The Practical Value of Vaccines and the Opsonic Index.
Ehrlich's Side-chain Theory.

REFERENCE BOOKS FOR THE SECOND MONTH.

Ricketts: Infection, Immunity and Serum Therapy.
Sternberg: Immunity: Protective Inoculations in Infectious Diseases, and Serum Therapy.
Ehrlich: Collected Studies on Immunity.
Metchnikoff: Immunity in Infectious Diseases.
Bolduan: Immune Sera.
Allen: Opsonic Methods of Treatment.
Cabot: Serum Diagnosis of Diseases.
Vaughan and Novy: Cellular Toxins.
Jowett: Notes on Blood Serum Therapy.
Osler's Modern Medicine, Vol. II.

NEWS NOTES

Harry S. Gabriel, Columbus, was appointed a member of the city board of health to succeed J. W. Clemmer, whose term expired January 1.

The Noble prize for 1908, amounting to about \$36,000, was divided between Metchnikoff, of Paris, and Ehrlich, of Frankfurt.

A. L. Wright, Carroll, Iowa, was elected president of the Western Surgical and Gynecological Association. Omaha, Neb., was selected as the place for the next annual meeting; time, December 20-21, 1909.

Theodore Bunge, Cincinnati, has been appointed assistant coroner of Hamilton county, Ohio, vice Oliver P. Coe, elected coroner.

John Batte was appointed to succeed Corliss Keller as assistant superintendent of the Longview Hospital, Cincinnati.

At the annual meeting of the Cincinnati Academy of Medicine, January 5, the following officers were elected: President, Rufus B. Hall; Vice Presidents, Samuel E. Allen and Edward S. McKee; Secretary, E. Otis Smith; Treasurer, Alexander G. Drury; Librarian, Arch I. Carson; Censor, John E. Greiwe, all of Cincinnati; and Trustee, James F. Heady, Glendale.

The Western Association for the Preservation of Medical Records has been organized in Cincinnati with the following officers: President, Charles A. L. Reed; Vice Presidents, Prof. John Lloyd and Phineas S. Conner and Jirah D. Buck; Secretary, Otto Juettner; Librarian, Alexander G. Drury. The records will be kept in the Lloyd Library pending the erection of a fireproof medical library building.

The fourth annual meeting of the Ohio Association of Medical Teachers was held in Columbus, December 28. There was practical unanimity as to the colleges in the state raising the entrance examination to include one year of literary college work in biology, chemistry and physics. The Association also passed resolutions commending the State Medical Board for conducting practical examinations in biology, bacteriology and embryology, and recommended that clinical medicine be added to the list of branches in which practical examinations are conducted. The visiting members were entertained by the local teachers with a dinner at the Great Southern. The following officers were elected: President, James U. Barnhill, Columbus; Vice Presidents, William E. Lewis and John A. Thompson.

The State Board of Medical Registration has organized by the election of the following officers: President, Augustus Ravogli, Cincinnati; Vice President, Sylvester M. Sherman, Columbus; Secretary, George H. Matson, Columbus; Treasurer, Edward J. Wilson, Columbus.

At the regular monthly meeting of the Cincinnati Chapter of the Miami Medical College Alumnae Association, held November 27, the following officers were elected: President, John A. Caldwell; Secretary, J. Edward Pierring; Treasurer, William C. Herman.

The Cincinnati Hospital graduated fifteen nurses from its school in January. The address was made by Wm. Gillespie, retiring president of the Academy.

The health officer of Cincinnati is pushing a vigorous warfare against slop-fed dairys. The distillers are evading the recently enacted law on

every opportunity and the amount of funds back of them makes it a difficult thing to fight.

A determined effort on the part of the Cincinnati Academy of Medicine and other bodies to have the health department of the city taken out of the Board of Public Service and given to a special board has failed. Council refused to make the change.

"Dante—Physician," by A. G. Drury, of Cincinnati, has appeared, and Dr. Drury has received many compliments on the work.

The first regular meeting of the Columbus Pathological Society was held Monday, January 23, at 8:00 p. m. in the office of the city board of health. Address, "Modern Conceptions of the Phenomena of Immunity," E. F. McCampbell. General discussion.

The Northern Tri-State Medical Association held their thirty-fifth semi-annual meeting January 12, at Ann Arbor, Mich. The following is the program:

Forenoon Session—"Neurological Clinic," from 9 to 10 a. m., C. D. Camp, Ann Arbor, Mich. "Methods of Examining the Insane, Clinical Cases," 10 to 11 a. m., A. M. Barrett, Ann Arbor, Mich. "Gynecological Clinic," 11 to 12 a. m. Reuben Peterson, Ann Arbor, Mich.

Afternoon Session—"A New Factor in the Diagnosis of Gastric Ulcer," with lantern slide demonstrations, A. W. Crane, Kalamazoo, Mich. Leaders in discussion, C. N. Smith, Toledo, O., Thos. F. Wood, Angola, Ind., and Wilfred H. Houghy, Battle Creek, Mich. "The Early Diagnosis of Gastric Cancer," L. Breischer, Detroit, Mich. Leaders in discussion, T. A. Olney, South Bend, Ind., J. H. Jacobson, Toledo, Ohio, and Theodore A. McGraw, Detroit, Mich. "Certain Phases of the Treatment of Syphilis," Jeremiah Metzger, Toledo, Ohio. Leaders in discussion, Ira Dean Loree, Ann Arbor, Mich., Chas. Stoltz, South Bend, Ind., and J. A. Weitz, Montpelier, Ohio. "Why Mastoiditis is Sometimes Misunderstood," Emil Amberg, Detroit, Mich. Leaders in discussion, Raymond D. Sleight, Battle Creek, Mich., R. Bishop Canfield, Ann Arbor, Mich., and John North, Toledo, Ohio. "Intestinal Tubercu-

losis, with Report of Cases," G. W. McCaskey, Fort Wayne, Ind. Leaders in discussion, John C. Fleming, Elkhart, Ind., I. J. Becknell, Goshen, Ind., and J. H. J. Upham, Columbus, Ohio. "Further Observations on Cancer," Geo. W. Crile, Cleveland, Ohio. Leaders in discussion, W. J. Gillett, Toledo, Ohio, Bud Van Sweringen, Ft. Wayne, Ind., and A. H. Rockwell, Kalamazoo, Mich. "Incipient and Atypical Graves Disease," Chas. G. Jennings, Detroit, Mich. Leaders in discussion, H. D. Wood, Angola, Ind., J. W. Bosman, Kalamazoo, Mich., and Walter H. Snyder, Toledo, O. "Some Common Misconceptions of the Symptomatology of Aneurisms of the Thoracic Aorta," Robert B. Preble, Chicago, Ill. Leaders in discussion, Albion Walter Hewlett, Ann Arbor, Mich., V. C. Vaughan, Jr., Detroit, Mich., and William M. Donald, Detroit, Mich.

Evening Session—A talk on "The Treatment of Tetanus," Willard Hunter Hutchins, Detroit, Mich. A talk on "The Present Status and the Future Outlook of Tuberculosis," Victor C. Vaughan, Ann Arbor, Mich.

A meeting of the St. Alexis Hospital Alumni Association was held at the Hollenden Hotel, Cleveland, Thursday, January 7. The program was as follows: "Case Report—Cavernous Sinus Thrombosis," A. H. Lanzer; "Serum Treatment of Epidemic Cerebrospinal Fever," A. M. Cheetam.

The annual banquet of the St. Alexis Alumni Association was served at the Hollenden Hotel, Cleveland, Thursday evening, January 28, 1909.

The North Side Medical Research Society held their regular meeting Thursday night, January 14, at the Northern Hotel, Columbus. The program was as follows: "Anaphylaxis, with Special Reference to Immunity," E. F. McCampbell, Associate Professor of Bacteriology, Ohio State University.

MARRIAGES

Jacob L. Sandoe to Miss Louise H. Laick, of Tarrytown, N. Y., December 15.

Chas. H. Hoffline to Miss Maud McManigal, both of Columbus.

DEATHS

George W. Sanor (Western Reserve, 1858), formerly of Columbiana county, died November 18 at the Massillon State Hospital, from paresis; aged seventy-three.

John E. Russell (Starling Medical College, 1882), of Mt. Vernon, died in the Millersburg Hospital, from nephritis, December 8; aged forty-eight.

Edgar A. Stewart (Medical College of Ohio, 1897), of Dayton, died December 10, from pneumonia; aged forty-one.

Levi F. Rinehart, a member of the Ohio State Medical Association, and for years a practitioner of Perry county, died at his home in New Lexington, December 13, from heart disease; aged sixty-eight.

Miner Wadsworth (College of Physicians and Surgeons, Keokuk, Iowa, 1882), died at his home in Hoytville, December 8, from kidney disease; aged fifty-four.

Samuel Hart (Bellevue Medical College, 1867), for fifty-six years a practitioner of Marietta, died at his home December 28; aged seventy-eight.

Enoch C. Hartrum died at his home in Rocky Ford, December 24, from kidney disease.

James H. Ward (Ohio Medical University, 1901), died at his home near Gahanna, December 25, from tuberculosis; aged thirty-six.

Edward C. Lewis (Jefferson Medical College, 1892), died suddenly at his home in New Phila-

delphia, from apoplexy, January 3; aged sixty-four.

Thomas D'Arcy Sharkey (Medical College of Ohio, 1892), died suddenly at his home in Hamilton, January 2, aged forty-two.

Leon P. Lee (Ohio Medical University, 1903), accidentally shot and killed while examining an automatic revolver at his office in Rutland, December 30; aged thirty-three.

Morris May (Medical College of Ohio, 1895), died at the Bethesda Hospital, Cincinnati, December 27, from diabetes; aged thirty-seven.

Thomas C. Tipton (Starling Medical College, 1852), died at his home in Williamsport, November 27; aged eighty.

Loren L. Loomis (Physio-Medical College, Cincinnati, 1879), died at his home in Pemberville, December 28, from cardiac disease; aged seventy-nine.

Wilson S. Anderson (Starling Medical College, 1852), died at his home in Newtonsville, December 28, from pneumonia; aged eighty.

M. W. Suter (Eclectic Medical College of Cincinnati, 1867), died at his home in Rocky Fork, January 9, from liver disease; aged seventy-two.

Arthur W. King (Cleveland Homeopathic College, 1905), died at his home January 9, following a kidney operation; aged twenty-six.

Frank S. Wagenhals (Starling Medical College, 1878), died at his home in Columbus, January 9, from cancer of the stomach; aged fifty-nine.

Mordecai W. Suter, a practicing physician of near Rocky Fork, Mary Ann township, died at his home January 8. Dr. Suter was aged 73 years, and leaves a wife, who has been blind for several years, and three children, all of whom reside away from home. Previous to his moving to Rocky Fork, about twelve or fourteen years ago, the deceased was a resident of Newark.

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ORIGINAL ARTICLES

MORE ABOUT CANCER OF THE RECTUM.

GEORGE B. EVANS, M. D.,
Dayton.

[Read before the Ohio State Medical Association.]

There are duties which are difficult of fulfillment pertaining to every position of life, and there are duties attached to professional life from which no man can assume to himself the right to shirk, with whatever diffidence and feeling of incapacity they may be undertaken. What I have to offer to you in this paper are deductions from personal work, research and observation. All surgeons and pathologists of the present day agree in the declaration that cancers are of a purely local origin, and practically all unite in the statement that early recognition and thorough extirpation will cure a large proportion of all cases.

Early diagnosis and immediate removal, then, mean life; late diagnosis and procrastination mean death. As we learn to recognize the character of malignant growths very early in their history, and as we teach our patients to submit to removal of every suspicious tumor, our percentage of cures of cancer of the rectum will surely rise. The public in general, and also some medical men, I am sorry to say, do not realize that malignant growths or cancers are at first just as purely local as a boil or pimple. Some malignant growths remain in a semi-quiescent state and grow very little. Others very rapidly invade the surrounding tissues. This diversity of malignancy depends on, first, the character of the primary growth; and second, its anatomical site. Until of late years the high rate of mortality and the rapid recurrence after operation render this avenue of escape from the ravages of this dread disease as hopeless as the therapeutic; but since the days of Lister operative interference has grown brighter, until today we can offer positive assurance of relief from suffering and some hope of a cure. The lateness of the recognition of the

disease renders it improbable that we will ever be able to extend the hope to a majority of our patients. The necessity of early removal is emphasized by the fact that no doctor or surgeon, whatever his skill, can always determine to a nicety when these suspicious growths are going to take on that rapid development which will end in speedy death; indeed, after the semi-quiescent state is passed and the malignant character is very apparent it is often impossible to know, in a given case, whether the involvement of the surrounding structures and the metastasis through the circulation will be rapid or slow. Such was the character of the last non-operative case that came under my observation. Perhaps when the profession has become more expert in diagnosis, when the careful examination of the rectum has become more systematically practiced in all cases with intestinal symptoms, and when the profession shall have made themselves proficient in the use of the modern armamentarium of diagnosis, then, and not until then, will our mortality rate be materially lowered. Many cases of uterine cancer have been termed "change of life," and very many cases of rectal cancer "piles." Why? Because the doctor has failed to take the trouble to really examine the affected parts. Rather give an ointment or a suppository, the contents of which he is in utter ignorance. This is almost criminal negligence. So also is the failure to tell your patient the suspicious character of his trouble. It is better far and more honest to awaken his suspicions, which will lead to early resort to treatment and to a possible operation, than to bolster up the patient with a false sense of security, until it is too late to eradicate the disease by thorough removal. If he has not the time or inclination or lacks the experience to arrive at a definite conclusion as to the character of the disease, it is his duty not only to himself, but to his patient as well, to refer the patient to some one who has the time or inclination and is thoroughly competent. Cancer is alarming when we remember the fact that so far absolutely nothing has

been determined as to the course and nature of this disease and that nothing offers any hope of cure, but early and complete extirpation. Why is it thus? First, because the people in general do not appreciate the dangers of apparently minor symptoms, or being in dread of surgical operations, willfully avoid physicians, or because of the tendency of cancer to recur, they refuse the use of the knife. Second, many physicians, in deference to the public, lest they should be classed as alarmists, watch a suspicious growth for a long time and thus postpone action till long after the case should have been in the hands of the surgeon. The rectum seems to be a favorite site for and to invite malignancy; then, how thorough should be the examination where any bowel trouble exists. Better excise a benign growth or ulceration occasionally unnecessarily than to let a malignant tumor gain such headway as to make a thorough eradication and cure impossible. A proposed operation for cancer of the rectum has for its object, first, a low operative mortality; second, a high percentage of ultimate cures based upon the three-year rule; third, leaving our patient in as comfortable and presentable condition as possible with reference to the control of his or her stools. These results seem at the present to be dependent upon, first, early operation; second, complete isolation of the organ affected; third, the removal of the lymph nodes and vessels through which the growth usually passes; allowing that the majority of surgeons agree as to the value of the operation in suitable cases, two propositions confront us. First, the value of the operation. Will it justify? Second, the risk and danger it involves. Having come to the conclusion then, that the case demands an operation, and our patient made fully and clearly acquainted with the character of the disease and the gravity and possible result, then, and only then, are we justified in going ahead. If we select inguinal colotomy we can only promise a partial relief from physical pain, for, knowing that the disease still exists, his mental anxiety has not been relieved. The risk of obstruction has been removed; tenesmus is only partially relieved. It does not stop the severe pain due to the involvement of the sacral plexus, nor does it avert the extension of the disease to other organs; therefore, in colotomy we have only a palliative procedure with a little danger attached to it, while in extirpation by the perineal route, or perineal and vaginal, or perineal and abdominal combined route, we have radical operations with some danger in the first two methods and considerable danger in the last, which offer almost absolute freedom from pain,

together with a more or less well-grounded hope of permanent recovery. If you could eliminate that one factor, danger, there would never be a doubt with either surgeon or patient as to which course to pursue. In my early work I was a firm believer in colotomy, but of late years I have been fully convinced that you offer so little to your patient, who, cognizant of the fact that the existence of his trouble is still in situ, his days are long and tedious and his nights hideous. Because the patient lives, one, two or even three years after this operation does not prove that he would not have lived just as long without it, or had it not been done he would have died. Some cancers are of a slow progressive type and do not demand removal. Then again, it may have been syphilitic or benign ulceration. Don't understand me to say that I would not advise colotomy. I would advise it only in extreme cases, and after thoroughly and explicitly acquainting my patient with the absolute results; therefore, there is nothing inherent in the morbid process that opposes radical operation, nor is there anything in the condition or anatomy which makes the operation especially difficult in suitable cases. From the patient's point of view, the restoration of the parts so as to obtain good functional control is of the greatest importance, whether the patient be left after operation with a colotomy aperture or a perineal anus, he expects to have good control over his evacuation, and he will never be content with any result, however successful as regards freedom from recurrence of the growth which falls short of this. The operation for excision of the rectum can never be satisfactory until we can obtain aseptic healing of the wound after operation. This has been the great difficulty all along, and at the present time most operators look upon excision of the rectum as an operation which must necessarily result in a septic wound. In order to prevent this undesirable complication in excision some operators claim a preliminary colotomy should always be performed in order to deflect the fecal current from the wound area, but it should be performed a week previous to the excision and the portion of bowel between anus and the colotomy washed out with antiseptic solutions to render the field aseptic. But does it do this entirely? I think not, for the extensive secretions from the cancer still remain. The patient in a successful case will therefore have to undergo three operations, and the closure of the colotomy would not always be an easy operation. I cannot believe the object to be gained (asepsis) is well taken unless it be in those cases where there is

absolute closure of the bowel and fecal impaction exists. To sum up with regard to preliminary colotomy. It should be performed when it is not certain that the bowel above the growth can be effectually emptied and the bowel is strictured. Some authors claim it should be performed where the sphincters are involved and require removal. To this I *strongly disagree*, and will give my reasons later on.

The rectum placed as it is deep in the bony pelvis, is comparatively easily accessible from below in selected cases by either the first or second method and the whole can be removed by the combined perineal and abdominal route. While at first it may not appear so, yet, nevertheless, it is a fact that the rectum is an anatomically isolated organ; that its lymphatic system is comparatively easily accessible, encourages us to consider it one of the more favorable sites for operative efforts like complete extirpation, and we look with great hope upon the ultimate results of our operation for its removal. Again, the lymphatic glands run in close contact with the intestinal wall, and if the operation is done sufficiently early, when the glands are not too much affected, there is a fair percentage of recoveries, as compared with cancer elsewhere, after operation in suitable cases. If we saw our cases of cancer of the rectum as early as the general surgeons do cases of cancer of the breast, I believe our percentage of cures would be just as great. The important question is, then, what constitutes a suitable case for operation? Some claim that an operation should be undertaken only when the patient is in a fine state of health and likely to stand well the operation and prolonged convalescence; in those who are not suffering from organic disease elsewhere, or where there is no evidence of extension to other parts of the body. I would add one more proviso—operate in all cases where the patient and friends were perfectly willing, after being thoroughly acquainted with the facts and conditions, let the result be what it may. With three of my cases I followed this course without the encouragement of my associates—all condemning the operation—with good results. The chief local contra-indication is a fixed bowel, which means that the growth has penetrated the intestinal wall and begun to invade the surrounding tissues. If the tumor is situated low down and adherent to the vaginal wall, there is still a possibility of a good result. Some regard the growth as unoperable where the upper margin cannot be reached by the finger with ease. This I believe to be a mistake, for under these circum-

stances we can open the abdomen and attack the growth from above. Entertaining, as we do, the most exalted admiration of nature's power of repair, the thought has not frequently occurred when watching my case that rest is the necessary antecedent to the healthy accomplishment of both repair and growth. And now is not absolute rest of both physical and mental suffering obtained when we do a radical operation instead of resorting to a palliative measure? Statistics are so unreliable, depending entirely upon the view of the maker of those statistics, that they are of little value to any one else, unless all the circumstances of each case are related, and *all* the cases of a given operator are reported as they occur. For instance, one operator may take the position that no attempt at operation should be made unless a positive assurance of permanent cure be given. This operator, we may say, might not have an operative mortality greater than five to ten per cent. Another operator takes the stand that all cancerous growths should be operated upon regardless of result. Such an operator in a series of cases might get a mortality as high as seventy-five per cent; while a surgeon, taking an intermediate view, would save more lives, have less deaths, save more patients, and give more comfort possibly, and yet have a larger per cent mortality than the extremely timid surgeon who has a five per cent mortality. Therefore, it seems useless, not to say misleading, to report statistics and especially when this paper is confined to my personal work. Therefore, I desire briefly to report my own work to date. My clientele number twenty.

No. 1. Mr. F., age 57, admitted to St. Elizabeth Hospital 8-31, diagnosis carcinoma of rectum, declined operation, rectum irrigated every fourth day with sterilized water; discharged improved 12-19-94; readmitted 1-2-96; died 1-12-96.

No. 2. Mr. J., age 77, admitted to St. Elizabeth Hospital May 11-97, diagnosis carcinoma of rectum, declined operation, discharged improved May 24, 1907.

No. 3. Mr. B., age 45, admitted to St. Elizabeth Hospital July 3-97, diagnosis carcinoma of rectum, declined operation, discharged improved July 12-97.

No. 4. Mrs. K., age 35, admitted to St. Elizabeth Hospital January 3-98, diagnosis cancer of rectum, declined operation, discharged January 10-98, unimproved.

No. 5. Mr. B., age 43, admitted to St. Elizabeth Hospital May 9-98, diagnosis carcinoma of rectum, discharged unimproved May 17-98, declined operation.

No. 6. Mrs. S., age 58, admitted July 5-98, diagnosis cancer of rectum and sigmoid, declined operation, discharged unimproved July 10-98.

No. 7. Mrs. W., age 36, admitted to St. Elizabeth Hospital August 8-98, diagnosis carcinoma of rectum, declined operation, discharged August 10-98.

No. 8. Mrs. B., age 51, admitted February 14-02, diagnosis carcinoma of rectum, extirpation February 17, discharged cured March 16-02, age 57 March 24-08, no return of disease in rectum but a metastasis in liver.

No. 9. Mr. S., age 45, admitted March 4-02, diagnosis cancer of rectum, declined operation, discharged unimproved March 2-02.

No. 10. Mr. S., age 77, admitted May 26-02, diagnosis cancer, operation, extirpation 5-29-02, discharged cured June 27-02, died two years afterwards, no return, from accident.

No. 11. Mr. B., age 54, admitted April 2-03, diagnosis cancer of rectum, operation, extirpation April 7-07, left hospital May 7-03, without my consent, June 1-05 still living, no return.

No. 12. Mrs. G., age 47, admitted November 9-03, diagnosis cancer of rectum and sigmoid, operation 11-30-03, combined perineal and abdominal, died from shock December 3-03.

No. 13. Mr. H., age 44, admitted 7-25-03, diagnosis multiple polypi, operation July 30 for removal of sale, discharged cured August 7-03, re-admitted December 2-03, for carcinoma, declined operation and was discharged December 8-03, unimproved, died February 26-04, autopsy revealed that growth could have been removed, I think successfully.

No. 14. Mrs. S., age 65, admitted to St. Elizabeth Hospital February 9-04, diagnosis cancer of rectum, operation, extirpation, transplantation of levator ani muscles February 11-04, discharged cured March 11-04, February 9-08, no recurrence, absolute control of stool.

No. 15. Mrs. N., age 69, admitted to St. Elizabeth Hospital June 24-04, diagnosis carcinoma of rectum, refused operation, discharged unimproved July 2-04.

No. 16. Mrs. N., age 60, admitted to St. Elizabeth Hospital July 5-04, diagnosis carcinoma of rectum, operation July 13, extirpation and transplantation of levator ani muscles, discharged cured August 18-04, August 1-06 no return, since then I have lost trace of her.

No. 17. Mr. B., age 26, admitted August 16-05, diagnosis carcinoma, operation, cured August 18-05, discharged unimproved October 12-05, carcinoma returned, left city.

No. 18. Mrs. S., age 66, admitted February 23-

06, diagnosis carcinoma of rectum, operation, extirpation and transplantation of levators February 27-06, discharged cured March 21-06, January, 1908, her physician informed me she was perfectly well, no return and good control of stools.

No. 19. Mrs. K., age 43, admitted November 11-06, diagnosis carcinoma of rectum and sigmoid, operation, combined abdominal and perineal, died November 21-06.

No. 20. Mr. M., age 63, admitted May 11-07, diagnosis cancer of rectum, inoperable March 25-08, still living.

Technique. Seventy hours before the time of the expected operation, gr. 3 of calomel in divided doses is to be given, followed in four hours after the last dose by Epsom salts in liberal dose. The afternoon preceding the morning of the operation high irrigation with normal salt solution, three quarts in quantity, to be given. Three hours before the time set for the operation a large enema of 1/2000 bichloride is given, followed by an enema of normal salt solution. Absolute rest is now ordered until time of operation. One-half hour before operation $\frac{1}{4}$ gr. sulph. morphine is given hypodermically. Patient being thoroughly scrubbed with soap and perineum shaved. Plenty of hot water should be constantly near by. If the sphincters are involved, and such has been the case in all my patients, we make an incision with a sharp knife around the anus just through the skin, then use the curved blunt pointed scissors for cutting and dissection, with the index finger of the left hand in the rectum as a guide, first on one side, then on the other, tamponing the dissected side with gauze wrung out of hot water to check hemorrhage; then the anterior, last the posterior aspect of the field of operation, following each dissected area with the hot gauze packing. Having reached the levators, run a suture of strong silk through on either side of the levators. These sutures, having been clamped with hemastats, are drawn to one side, to be used later. The muscles are now cut close to the gut on either side and the dissection carried to the top of the disease. The bowel is now drawn down until the diseased portion is entirely exposed. Especial care is now taken that all bleeding points have been tied with catgut, and if the peritoneum has been entered it is sutured with catgut to the bowel, completely closing the aperture. Then by making traction on the silk sutures attached to the levators on either side we draw them down to the gut and transplant them to the bowel firmly with catgut, using continuous suture, hoping to get strong union. The gluteal fascia is treated likewise. A stab wound is now made for drainage posteriorly to bowel and just

in front of coccyx, and a fan shaped drainage of iodoform gauze is now inserted.

The diseased portion is now cut off and four to six silk sutures inserted through the bowel and anus. Catgut sutures are now used in like manner in sufficient numbers to bring the gut and silk in neat and close apposition. Toilet is now made and patient put to bed, surrounded with hot water bottles or, what is much better, an electric pad, which keeps the bed at any temperature desired and without danger of burning the patient.

The only point that I desire to call your attention to in particular is the transplantation of the levators and gluteal fascia, especially the former. I was led to follow the above technique from the conclusions drawn in a paper read three or four years ago, in which I regarded not the rectum nor the sigmoid as the receptacle for fecal matter, but rather both. Therefore, if I was wrong in my conclusions and the sigmoid was verily the receptacle, there is certainly a cause for it, and that cause is an anatomical one, and why not attribute the levators to the anatomical cause?

As stated above, I have followed this technique in five cases, and in each my patient has been able to control his or her bowels and keep themselves clean and neat without the use of a napkin.

Cripps attributes to the levator ani and their sheaths a considerable share in the etiology of stricture. "These fibers run from the inner surface of the pubes to the sides of the coccyx, crossing the rectum at an obtuse angle, about one and one-half inches from the anus. Both the origin and the insertion of these fibers being close to the middle line, when the muscles of opposite sides contract they act as constrictors of the rectum as it passes between them, and I believe that not a few cases of rectal stricture at this point are caused by the permanent atrophic shortening of the fibrous element of this muscular tissue."

DEDUCTIONS.

First.—In order to arrive at a just conclusion as to the advantages of extirpation of the rectum it is necessary to review the course which rectal cancer runs when subjected to operation. It would appear from a consideration of a large number of statistics that the average duration of life is about two years from the appearance of the first symptoms, and during that time the condition of the patient is truly miserable. Where obstruction is present, a constant straining is a source of perpetual pain and annoyance to the patient, and even when this symptom is not present the continual mucous and bloody discharge,

the extreme pain suffered when the disease encroaches on the bladder, the anus or the nerves of the sacral plexus, combine to render this disease one of the most distressing that can possibly come under the observation of the surgeon; and it is little to be wondered at that any operation which can hold out a chance of remedying this condition should be readily grasped by both surgeon and patient. I am convinced that a careful and unbiased consideration of the facts bearing on these questions will serve to convince the impartial observer that they are not only sufficient to justify the operation in suitable cases, but that it is the duty of the surgeon to strongly recommend it.

Second.—We must take into consideration the condition of the patient before operation and then after removal of the disease. When the sphincters have not been removed, the amount of incontinence is usually trivial, and it is only when there is diarrhea that any trouble arises. When the entire lower end of the rectum has been removed, a considerable amount of control often is maintained, but even in the worst cases of incontinence met with after ablation of the rectum the results compare favorably with the usual artificial anus following colotomy so far as situation is concerned and is vastly preferable to the state of the patient suffering from advanced rectal cancer.

Third.—By virtue of the circular fibers of the bowel and the extensive denudation following the above technique, by the transplantation of the levators and neighboring fascia, we obtain the third sphincter, so called, and thereby control the action of the bowels.

Finally, the surgeon, whom, with his other qualities, should combine in himself those of a profound psychologist, so as to raise and stimulate the moral strength of his patient, will enter the battle advantageously against auto-intoxication if he arms himself with calomel, castor oil, heat and water. Antisepsis will rid him of the invading microbe, asepsis will preserve him against the microbe from without. Kind words inspired by sympathy, acts of charity such as the simple humanitarian feeling indicates, the hope of a speedy recovery, constitute, besides, the best stimulants for the cure.

DISCUSSION

Ed. Hamilton: I think that one of the most important thoughts which we can carry away with us as a result of hearing this excellent paper is to emphasize the absolute importance of a thorough examination of the rectum in all conditions in which there can be a remote suspicion of difficulty. The rectum above the anal area is a comparatively insensitive area, supplied with

sympathetic fibers—no connection with the sensory tracts of the spinal cord; consequently, if we wait for the patient's own sensations to tell us of the presence of malignancy or a disturbance of any character caused by the presence of tumor formation our patient at that very time is probably past a period when we could accomplish anything by operation. Early diagnosis is, of course, essential to best results in any form of operation in malignancy of any portion of the body. Not long ago we saw that Kelly, in his work on medical gynecology, laid stress on the importance of the surgeon being thoroughly equipped to examine the rectum, not only superficially with the finger, but with the proctoscope and distension by pneumatic means, an instrument without which the surgeon cannot consider himself competent to do rectal work, even of the simplest kind. This rectal examination should be routine, and back of that we put Kelly's great name. Early operations in rectal cancer do give a good prognosis. I think, as Dr. Evans so clearly stated in his paper, that early operation gives a better outlook not only for relief, but permanent cure, than in any other part of operative surgery. Physiological conditions enter in that statement—namely, that the rectum and sigmoid are capable of carrying irritating material in quantities which would mean disaster in any other part of the body. The lymphatics of the bowel have been carrying away debris as a natural course, and consequently they can handle it in quantities which would actually mean disaster of grave import in any other portion of the body. Now, we know that Nature has this capacity for handling this work in this viscus—she helps it along.

The doctor speaks highly of inguinal colostomy, but I believe these prospects have not been fulfilled by a large experience. Tuttle says that castor oil and morphine are of more avail in treating cancer in the sigmoid than colostomy. Of course, it does not have any possible control over the progress of the disease. Colostomy substitutes an artificial anus for the natural opening, and that is a matter of extreme humiliation and discomfort to the patients; it keeps them worried and uneasy, and it is problematical as to the value of this procedure under these conditions. Men of large experience, I think, will advise a curettage of the malignant growth by various procedures. After that, using large doses of castor oil and morphine will give as much comfort as the ordinary inguinal colostomy.

In speaking of the dissection in the removal of malignant growth in this region, I think that a very important point to remember is that in separating the skin from the anal sphincter the line of cleavage is better when we come from above downward than when we go from below upward, and we get the best result in this dissection. The better idea would be, I think, to open up the skin and muco-cutaneous structures at their line of junction, insert a pair of short, blunt scissors up as high as the ano-rectum line, then bring the scissors from above downward in the line of natural cleavage—a much cleaner and much more satisfactory method of separating these structures. The importance of the levator ani muscle cannot be overestimated. It is the

pelvic diaphragm, and when we consider its important functions in maintaining not only the position of the abdominal viscera, but also in helping out the respiratory act, we can think then that we cannot separate our levator ani muscle with impunity. We have a local disturbance afterwards to contend with.

The microscopic examination of the growth is another matter of vast importance. It has been demonstrated in a well known clinic that certain of these tumors will recur in every instance. The solid tumors and the colloid tumors, for instance, are the gravest which we come across in territories of this character, coming as they do from the glandular structures of the bowel, and it has been demonstrated in a long series of cases, under most careful operative procedures, that in every instance colloid tumors and solid tumors do return. Cystic tumors and sometimes adenoma simplex give a good outlook. So I think Dr. Evans' outlook about operation in these cases is rather enthusiastic. Maybe he thinks it well to salve his patients—give them every possible encouragement; that is correct; but if we have a microscopic examination made and find it of a colloid variety I doubt the advisability of operation, for they do recur. The average duration of life is rather more than two years. As I started out to say in my remarks, the rectum is a peculiarly insensitive structure and does not give us very early symptoms of trouble. Usually the first symptom is a putrid discharge, which we recognize as meaning a disturbance in the bowel. That signifies that we have a malignant growth, causing necrosis of surrounding tissues—namely, an infiltrating growth, in which operation is of no avail. We do have cancer without a discharge. So, when we come to consider, then, that we have a territory in which nature, by long continued handling of irritating material, is capable of taking care of irritative processes of different varieties in a way which is not possible in any other portion of the body, I think that early diagnosis, with a routine examination of the rectum in every case, is very important. And I think that in this field we are considering now, the opportunity for cure by removal of the cancer is better than in any other territory in the whole domain of surgery.

Dr. Gilliam: I don't know that I grasp exactly the doctor's meaning. Do you mean, Dr. Evans, that you bring down the gut and stitch the levator ani muscle to it? I think that is very good. I have never really done that with a view to attaching it to the levator. Of course, I have habitually brought the gut down and stitched it to the anal opening. In my own experience I have never yet been able to save the sphincter; there is always involvement of that part. But with regard to complete obstruction of the bowel, I have always had a fear that we would get a complete obstruction unless sometimes a colostomy was done; and yet I am inclined to think, from what Dr. Hamilton says, by inference, that there will not be a complete obstruction. I know one instance in which I had a case—a lady here in the city. I diagnosed her case as cancer of the upper part, probably of the sigmoid. She went on to New York and consulted specialists there, among others Dr. Thomas and others, and after

making a very careful examination under anesthesia they came to the conclusion there was no cancer. And later, in writing to them on the subject, they said they had no direct evidence of cancer there; they thought the disease had lasted too long to be cancer—namely, two or three years. I still retained my idea that it was cancer. I finally lost trace of the case, didn't know what had become of her, and I began to give up the idea that it was cancer. Finally one Sunday morning at breakfast I received a message to come down to my office—rather one Sunday evening. And a physician who had had this woman in care from some place in the northern part of the state said he had had a postmortem on her and found a cancer in the bowel, as I supposed. But I had embraced the idea of the New York physicians and supposed that I was mistaken in my diagnosis until this time. He said after awhile there came a complete opening of the bowel, and that the passages went out with complete ease, and he couldn't understand that if a cancer existed. But on postmortem he found that there had been a kind of circuiting—the fecal matter had broken out of the bowel through the connective tissue and come through the bowel again, leaving a clear passage for the contents of the bowel. I remember a few years ago I had a case of that kind, in which I operated through the vagina, and I lost a very good patron by it—a physician who had been bringing cases to me, and this was the last in a series of cases we had that morning. I said to him I had made a partial examination of the case and found an anal cancer. The bowels were blocked, and of course it was very blameworthy on my part to allow myself to be misled by this superficial examination; but the bowels were all blocked up, and I left word to have them cleared out entirely. When she came on the operating table, I found the bowels had not been cleared out, and there was a mass there in the rectum which I saw was a cancer. So we went to work to get it out. This other doctor left the room. After I got through taking the cancer out, it left such a tremendous looking hole that I was ashamed of it. Some time after that, coming from Louisville, I was occupying the same section with Dr. Deaver and another physician, and I said to Dr. Deaver, "Did you ever take a rectal cancer out through the vagina?" And he said: "Yes, I took it out with the thermo-cautery, but I was ashamed to look at it after I took it out. It simply looked awful!" But that case got along, notwithstanding she had no preliminary treatment, and lived one or two years. But I never had the good results which Dr. Evans speaks of with reference to the control of the passages, and I am glad to have heard his paper. If I have work of this kind hereafter, I shall remember it and try to keep the levator muscle in trying to better conditions.

Dr. Evans: I wish to still emphasize the statement that I made that I would operate in all cases after making my patient thoroughly and honestly acquainted with the results. I am backed up in that by James P. Tuttle, of New York, and others. Howard Kelly, of Baltimore, takes issue with me on that point. Now, in regard to transplantation, I will make that clear. In the normal anus, the anus, you know, is funnel shaped, and

the apex of the funnel is at the anus. After I operate and do this transplantation, the apex of the funnel is above; you just turn the funnel around. I have had that technique and results questioned by a number of men. Four years ago last February I had operated on a case of this kind, and one of my associates laughed at and ridiculed my technique. As the lady was about to leave the hospital I got her consent to be examined by the doctor, and after he got through he said that it was simply an accident. "Well," I said, "what about the others?" Now, on the 11th of last February I was sitting at my breakfast table, and I received a telephone call. I went to the 'phone, and I can't tell you what a happy message I received that morning. An old lady who celebrated her seventieth anniversary two or three weeks after that said: "Do you know this is the fourth anniversary of my operation? I am perfectly well, absolutely well, in perfect health, able to go about and go to church. I take care of my toilet at 8 in the morning, and I have no further trouble until the next morning, unless I have a little diarrhea." Now, that case is four years old. She had been examined by Dr. Deaver four years ago, who said she would have to be operated upon; informed her that she might have to remain here, and also told her that she might die during the operation. She told him she would rather go home to Dayton, which she did. On the following day she came to my office, and preparations for the operation began immediately. There was one peculiarity about that case. She had acute mania following the operation for a few weeks, but I think it was due to anxiety. She went home and improved very rapidly. The next case—the one following that—is six years old. Now, the first case on which I did the transplantation, which was six years old on the 8th of February, came back to me. And why? Simply because she took the very best care of herself for five and one-half years, and then she thought she could do everything about the house. In lifting a tub of water she felt something give way, which finally became so irritating that she came to Dayton. Her brother, who was a physician, told her she had a prolapse, and whenever she walked any this prolapse would occur. She asked me if something could not be done for her. Well, I examined her and was astonished to see how strong the levator muscles were attached. It was just as firm as could be, and I could push this prolapse up. On further examination I found she had involvement of the liver, and told her so; I didn't want to operate. But she insisted so that I concluded to operate. I did a colopexy, and I also found the liver involved. She went home, and within a week her brother told me the liver involvement was spreading rapidly. Now, there was a case in which all my associates were opposed to operation, but I took the chance, and my patient has always thanked me for it. I had three other cases in which I did not think there was a shadow of a chance. Two of them died; one in eight hours and the other in five days, and the third lived a year and died of a valvular lesion of the heart. She told me afterwards: "I have had so much comfort and relief, no matter if I die tomorrow, the relief I have had has well repaid me for the operation."

A YEAR'S EXPERIENCE WITH LUMBAR PUNCTURE.

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[Read before the Ohio State Medical Association.]

The following report is based upon a year's experience in the employment of lumbar puncture for diagnostic and therapeutic purposes in the medical wards of the Lakeside Hospital. The cases are partly from the services of J. H. Lowman and E. F. Cushing, but for the most part are drawn from the service of C. F. Hoover, who proposed this report.

The cases cited are of varied character, consisting of both acute and chronic conditions affecting the nervous system, and in all number 114, in many of which lumbar puncture was done more than once.

The present report is simply a brief account of the technic employed and the results of a determination of the pressure and cellular content of the cerebro-spinal fluid.

For the removal of the cerebro-spinal fluid, a needle 10 cm. in length, with 1 mm. internal diameter, with rather a blunt point, was found most satisfactory in both children and adults.

For determining the pressure of the fluid, a simple manometer was employed—glass tubing, with an internal diameter of 2 mm., cut into 30 cm. lengths, so that sterilization by boiling was made easy. Rubber connections of 2 mm. diameter were employed where more than one piece of glass tubing was necessary. The pressure of the fluid is then expressed in mm. as determined by the height above the needle to which the spinal fluid rises in the manometer.

The position of the patient was found most important in making the punctures cleanly. The patient may lie on either side at the edge of the bed, with a pillow under the shoulder and two under the head; knees flexed and drawn far up; head somewhat forward, so that one had not only a dorsal bowing of the vertebra, but a lateral one, with the convexity downward as well, thereby securing the greatest amount of space between the laminae through which to thrust the needle. With a patient in such a position, the lumbar region is thoroughly cleansed and the operator, with cleansed hands, sits comfortably on a chair directly facing the patient's back. If the patient lies on the right side, the operator places the palmar surface of the fingers

of the left hand just above—i. e., cephalward and upon the crest of the patient's left ilium, with the thumb swung downward into the space between the third and fourth lumbar spines, the thumb nail coming about to the dorsal median line. After anesthetizing the patient's skin by means of an ethyl chloride spray, the needle is inserted at a point 1 cm. below the middle of the thumb nail margin—i. e., to the lower side of the median line, and is thrust straight in at right angles to the long axis of the spine for a distance varying from 4 to 5 cm. in young children to 9 cm. in fleshy adults. In this way one not only has the interspace definitely located, but the patient's movements are also somewhat under control by the hand on the ilium. The needle should go into the canal without striking any bony part if one is to avoid causing the patient pain and is to secure a fluid uncontaminated by blood, and this result is easily attained if the patient is in the proper position and the needle is thrust in perpendicularly to the spine and not at an acute angle. One readily appreciates the increased resistance offered to the needle during its passage through the ligamentum flavum just before entering the vertebral canal.

If the fluid pressure is to be determined, the manometer should be connected to the needle by rubber tubing before the puncture is made. With a patient in the position above described, the normal fluid pressure was found to be about 50 to 80 mm. The manometric reading can be roughly checked by noting the rate of flow per minute from the needle after the tubing is removed. It was found, for example, that when the spinal fluid rose to the normal level in the manometer—i. e., 50 to 80 mm.—that the fluid was likely to drop at a rate of 45 to 75 drops per minute, and if the pressure was higher—for example, 250 mm.—that the fluid would drop about 225 per minute. Of course, with very high pressures the fluid runs in a stream. The pressure is increased considerably in a patient with slight alteration in the level of the head and shoulders, as, for example, placing an additional pillow beneath them, contraction of the abdominal muscles, as in crying, or throwing the head backward after the needle is inserted. In fluids showing a rise and fall of 10 to 15 mm. in the fluid, the rise occurs just after the cardiac systole.

After the pressure has been determined and the manometer connection removed from the needle, the fluid in the normal individual runs slowly drop by drop from the 1 mm. lumen or spurts in a stream where the pressure is high. Care, however, must be exercised not to alter the

position of the point of the needle during the removal of the manometer.

The fluid is collected in perfectly clean sterilized test tubes, or, better, in centrifuge tubes.

For the determination of the cellular content of the fluid two methods are employed—one as a check upon the other, viz: (1) a pipette count; (2) a stained centrifugalized specimen.

For the pipette count the ordinary Thoma-Zeiss blood counter was employed. Glacial

either instance, one determines the number of cells per cu. mm., as in the ordinary blood count. Normal spinal fluid has been shown to contain less than five cells—usually but one or two cells—to the cu. mm.

For the stained centrifugalized specimen a modification of the method proposed by Vidal, Sicard and Ravaut is employed. Five cc. of fluid is placed in a clean sterile centrifuge tube and centrifugalized at once for one hour at 1,000



acetic acid was drawn to 0.5 in the pipette for red cells, and the pipette then filled to 101 with the spinal fluid, i. e., about 1 cc. spinal fluid is used. In this way any erythrocytes accidentally present in the fluid are laked, and only the leucocytes are left to be counted. In case the number of erythrocytes present is to be determined, as may occur in fracture of the skull, a saturated solution of methyl violet, as suggested by Rous, may be substituted for the glacial acetic acid. In

revolutions per minute. The supernatant fluid is pipetted off, and the residue transferred to a clean glass slide in such manner that the drop thereon has a diameter of but 5 or 6 mm. The water is slowly evaporated, the cells fixed by heat, and stained with Loeffler's methylene blue. It is important not to centrifugalize too rapidly. If a high speed centrifuge, for example, 2,000 revolutions per minute, is employed for an hour, one may find that the polymorphonuclear leuco-

cytes have had their nuclear material so shaken together that the cells appear like large mononuclear leucocytes. A slide prepared by this method from normal cerebro-spinal fluid and examined microscopically with a magnification of about 450 diameters, for example with Leitz ocular four and objective 6 should show less than five cells to the field—usually but one or two—and these small lymphocytes, with an occasional larger palely staining endothelial cell.

For the examination of the fluid, then, for cellular elements, but 6 cc. is necessary, and we have made it a working rule never to exceed that amount unless the pressure of the fluid be definitely increased. By adhering to this, we have avoided any such unpleasant result as collapse of a patient following lumbar puncture. Removal of even 6 cc. has three times produced headache which lasted for several hours in two cases, and was noted for three days in a third case, only, however, when the patient was in an upright position.

Among acute conditions on which lumbar puncture was done, were eleven cases of epidemic cerebro-spinal meningitis, the meningococcus being found in each instance; nine cases of tuberculous meningitis, the tubercle bacillus being found in three cases; four cases of purulent meningitis where no organism could be found—one being associated with a pneumonia; two accompanying an influenzal bronchopneumonia, and from both the influenza bacillus was recovered from the spinal fluid; one occurring in a case of acute lobar pneumonia, and the pneumococcus found in considerable numbers in the spinal fluid; one case from which a streptococcus was grown from the spinal fluid and from the blood; one from which a streptothrix was grown. In addition to the cases of meningitis occurring in pneumonia, six other cases of pneumonia with delirium had their spinal fluid investigated—three during life and three just after death, and in each instance the amount of fluid was found to be moderately increased and the cellular elements also increased slightly—the increase, however, being a lymphocytosis and not a polymorphonuclear leucocytosis.

From the eleven cases of epidemic meningitis, cloudy or turbid fluid, with well marked sediment at times, was obtained under a pressure as high as 870 mm. The number of white cellular elements varied up to 12,500 per cu. mm. The fluid of all cases showed a polymorphonuclear leucocytosis, but in three cases this was not constant. In the child with 12,500 white cells to the cu. mm. of spinal fluid, the polymorphonuclear

proportion was 99%, yet, three days later, with a decided improvement in the child's condition, the number of cells had fallen to 120 per cu. mm., and of these 85% were lymphocytes. In an other instance, the child, ill for an indefinite period, showed on first tapping 43% polymorphonuclear leucocytes and 57% mononuclear leucocytes. A few days later, with 2,030 leucocytes per cu. mm. of spinal fluid, the proportion was polymorphonuclears 93%, and mononuclears 7%, and still later in the course of the disease, with a development of an hydrocephalus, but, with the meningococcus still present in the fluid, the percentage of polymorphonuclears was but four and the mononuclears 96%.

In the tuberculous cases, the fluid was clearer than in the epidemic meningitis cases. The pressure was noted as high as 820 mm. The leucocytes varied from 45 to 400 per cu. mm. The differential count of cells usually gave a lymphocytosis of 80% to 95%, but in one instance, and that where the tubercle bacillus was found in considerable numbers in the fluid, and no other organism was present, the mononuclear cells were but 25% and the polymorphonuclear cells 75%.

Of the other meningitis cases the streptothrix, the pneumococcus and the so called purulent, all had distinctly turbid fluid, averaging about 95% polymorphonuclears and 5% mononuclears.

The fluid from the influenzal cases was only cloudy—in one with 90% polymorphonuclears and 10% mononuclears, and in the other 50% of each. The fluid from the streptococcus case was almost clear, showing at first 45% polymorphonuclears and 55% mononuclears and later 70% polymorphonuclears and 30% mononuclears. In both instances many streptococci, paired and in chains, were noted.

It is a point of much interest that the cases of streptothrix and streptococcus meningitis occurred in children admitted to the hospital for acute gastroenteritis, without marked meningeal symptoms, and at no time had either of them more in the way of symptoms of meningeal irritation than do many other children who are suffering from an acute gastric or gastroenteric upset.

Of four cases of cerebral hemorrhage with hemiplegia, clear fluid was obtained in all. In two the pressure was increased, while in one the cell count in the stained specimen gave 25 mononuclears to the microscopic field.

One case of fracture of the skull showed bright red fluid under much pressure, with

72,000 erythrocytes to the cu. mm., where the lumbar puncture had been cleanly done.

One case, two weeks after a decompression operation for traumatic epilepsy, showed a normal pressure (50 mm), with slightly clouded fluid, giving 40 cells to the cu. mm. and 40 to the microscopic field in the stained specimen, of which 95% were lymphocytes and 5% polymorphonuclears.

Six cases of tuberculous spondylitis showed an increased pressure in two cases and an increased cellular content in three cases, ranging 10, 15 and 20 mononuclears to the microscopic field. The other three cases showed no increase.

Of the two other cases of spondylitis, not tuberculous, one showed no increase in the cellular content, and the other but eight cells to the microscopic field.

One case each of brachial neuritis in typhoid fever, multiple neuritis following rheumatism, multiple neuritis appearing suddenly following exposure to cold, and a multiple neuritis due to alcohol, showed a normal pressure and cellular content for the spinal fluid. One other severe case of alcoholic neuritis, however, involving both the arms and the legs, showed a fluid that spurted when the needle was inserted and gave a count of 15 lymphocytes and 7 endothelial cells to the microscopic field, possibly due to the extension of the inflammatory process upward along the nerve trunks to the meninges.

Four cases of marked anemia with red blood cell counts ranging from 3,000,000 to 1,500,000, with spinal cord symptoms—for example, diminution of power in the legs, numbness or burning in the feet, impaired or absent reflexes, disturbances in the perception of pain, touch and temperature in the legs—the subacute combined degeneration of the cord of Risien Russell—showed an increased pressure in all, ranging from 175 to 270 mm. In two cases there was no increase in the cellular content; in one a slight increase to eight lymphocytes to the microscopic field at the time of death; and in the fourth an increase to 25 lymphocytes and 15 endothelial cells to the microscopic field.

Ten cases of *tabes dorsalis* of varying duration were examined. Of these, one showed 200 lymphocytes, four showed 60 lymphocytes, one showed 40 lymphocytes, two showed 25 lymphocytes to the microscopic field, and in two no increase was found. However, one of these latter two cases, after a year had elapsed, has recently had her spinal fluid examined by Dr. Eyman, of the Massillon State Hospital, who reports an average of 25 lymphocytes now present to a microscopic field.

Thirteen cases of cerebral, spinal or cerebro-spinal lues gave an increased cellular content in ten cases, ranging from 7 to 150 lymphocytes to the microscopic field. In one case showing no increase in cells, the patient, aet. twenty-two, with a luetic history, developed a hemiplegia, from which he recovered satisfactorily, but not completely, after thorough anti-luetic treatment. Another case, a man, aet. thirty, with a known luetic infection ten years previously, while working hard as an architect, had what was diagnosed as a nervous breakdown—malaise, insomnia, inability to think consecutively, etc. On examination he was found to be a nervous individual with decidedly increased reflexes. The point calling attention to his cerebro-spinal system was the marked irregularity in outline and ectopic position of the pupils. Lumbar puncture here showed 60 lymphocytes to a microscopic field, and the patient promptly improved on large doses of mercury, until, after two or three months, he was apparently in normal condition.

Two cases of general paresis showed an increase in pressure and 60 to 80 lymphocytes to the microscopic field.

A case of congenital lues in a woman, aet. twenty-three, with hyperostosis cranii, showed an average of 75 lymphocytes to the microscopic field.

One case each of cerebral and cerebellar tumor with increased pressure and bulging of the brain at operation, showed no increase in the cellular elements.

One case of cerebral syphilis in a man, aet. forty-six, with an old luetic history, which had been responsible for his having taken as high as 240 grains of potassium iodide a day, entered the hospital with a complaint of attacks of dizziness, vomiting, pain in the back of head, blurring of vision and some difficulty in urinating. Examination showed some nystagmus, normal eye-grounds, exaggerated reflexes, some loss of muscular power, an irregular ataxic gait and a tendency to go to the right side in walking or to fall towards the right on standing with the eyes closed. This man showed an increased pressure and 50 lymphocytes to the microscopic field. He was given mercury hypodermically and finally cleared up almost entirely, showing that sometimes potassium iodide, even in large doses, is inefficient in tertiary lues.*

*It is interesting to note in this patient's subsequent history, that, upon discharge from the hospital, he discontinued, contrary to advise, the use of mercury and, less than a year later, returned with a complete paraplegia involving both legs. His spinal fluid was again found to be under increased pressure and to show an increased cellular content. Active employment of mercury hypodermically has again after three or four months, given him pretty good use of his legs.

Two cases of transverse myelitis without any luetic history showed no increase in lymphocytes.

Two cases of marked cephalalgia without apparent cause or without other symptoms showed no increase in cells in one case and seven cells per microscopic field in the second case. This latter one improved on potassium iodide.

Three cases of sciatica occurring without any definite etiological factor showed no increase in cellular content.

Two cases of epilepsy developing after adult life was reached showed three and four lymphocytes respectfully to the microscopic field.

One case of uremia showed a marked increase in the pressure of the fluid, but no increased cellular content.

Two cases of encephalitis, one in a child and possibly of infectious origin, and the other in an adult following an electric shock, showed no increase in the cellular content.

Three cases of convulsions in children showed no increase in the cellular elements.

A case of tetanus showed a slightly increased pressure, but no cellular increase. A case of tetany showed an increase of neither pressure nor cells.

A case of syringomyelia in an adult, a case of osteitis deformans (Paget's disease), two cases of cerebral arteriosclerosis with epileptiform convulsions, a case of sudden monoplegia occurring in an adult diabetic, showed in no instance an increase in pressure nor in cellular content.

A case of hydrocephalus associated with rickets showed some increased pressure, but no increase in cells. A case of hereditary cerebellar ataxia showed a pressure of 435 mm. and 175 lymphocytes to the microscopic field. This patient had also a cerebral syphilis.

A child with a meningocele, another with amaurotic family idiocy, another with congenital heart disease and nystagmus, gave no increased cellular content.

From the foregoing facts certain points seem worthy of emphasis:

1. That the lymphocytes may predominate in an epidemic meningitis and the polymorphonuclear leucocytes in a tuberculous meningitis, as has been noted by Concetti, who stated that a predominance of lymphocytes indicated an irritation of toxic nature, while the predominance of polymorphonuclears indicated an irritation by bacteria.

2. That many of our pneumonia cases with delirium may be found to be actually suffering from a meningitis.

3. That many of our children with the so called meningismus may have a real meningitis.

4. That the cell count of the spinal fluid in cases of suspected lues of the central nervous system is a helpful aid in diagnosis.

DISCUSSION.

Dr. Hoover, Cleveland: I think this is something physicians have hesitated to use on account of the fear of danger involved in doing it. We have had this last year 115 lumbar punctures and not a bad result in any one case. The only symptom in three cases was headache, which lasted several hours, an entire day, and two or three days, respectively. The fatal results that have been reported in several cases I cannot account for save from the technique employed. I remember hearing a lecture in Paris in which a man who had tabes dorsalis was instructed to walk a hundred yards to the amphitheater, where he sat on a bench with his back to the audience, and the lecturer did a lumbar puncture, and the man walked back to his room. Such a method of procedure I should regard as dangerous. But if the patient is kept in a horizontal position and not over five or six cubic centimeters taken for diagnostic purposes, I believe it is absolutely safe.

It is surprising to find meningitis without symptoms at all. I saw a boy, ill two weeks, regarded as influenza. He developed slight rigidity of the neck and Kernig's sign. A lumbar puncture was performed which showed on bacterial study that the boy was suffering from a meningococcus infection. The boy remained in the hospital four weeks and had only an elevation of 100° three or four days. He had no headache, and yet during that period we could get a cloudy fluid. It was a very instructive case, in which there were very marked signs existing in the spinal fluid and yet no clinical signs of the disease. You will find if you do spinal punctures more often the term "meningismus" will be dropped. When the spinal canal is infected, you have a better opportunity for collecting the inflammatory products of the infection than at autopsy. If you find no increase of the cell count in the spinal fluid, you can be safe in excluding meningitis.

In case of syphilis of the central nervous system, it is important to make a diagnosis. The patient may have motor disturbances and headache and is given iodide of potash. He is comfortable in a few days, and the doctor is then doubtful what he is dealing with, and the patient is not told of his suspicion and the man is not warned of the extreme danger to which he is exposed. It is important that he should know the care which must be taken in the future to preserve himself against paralytic dementia or a parasyphilitic disease of some sort. If the doctor makes a lumbar puncture and establishes his diagnosis with certainty, he will gauge his therapeutic measures with greater certainty. The case Dr. Stone has referred to, a man whose occupation was purely intellectual, who revealed no focal symptoms and suffered from nothing but an inability to perform the mental work, and had some headache in the night time. There was not a sign to show he had a syphilis of the central nervous system ex-

cept the ectopic and irregular pupils. The important significance to lumbar puncture (in suspected cases of syphilis of the central nervous system) is therapeutic. We see evidences here of a meningo arteritis and this requires mercury, not iodide of potash. In many such cases iodide of potash is useless when mercury will effect a cure.

Dr. Sylvester: With regard to lumbar puncture, I have had small experience, because the average physician in the country does not get the opportunity of doing such work very often. One thing in regard to it that comes to my mind that I wish to mention, and that is the relief afforded to the agonizing symptoms that often occur late in meningitis. Any physician that has set at the bedside of a child in the last throes of meningitis knows how much anything would be welcome that would give any relief. I have seen two baby brothers lying in that condition, and I know how agonizing it is. During the past two years in a few cases I have been called in consultation in the last stages of such cases. I have found, as in one case particularly, eight or ten miles away in the country, a child in almost constant convulsions. The parents would welcome anything to relieve these symptoms. While I could not promise them anything in the way of cure, at the same time I told them I would make a lumbar puncture and try to relieve the tension of the brain. In my experience this has always been an easy thing to do. It requires a little nerve, but it has been easy in the cases in which I have tried it. In that one case I introduced the needle, drew a small quantity of blood, and there was a marked cessation of the symptoms, and the child lay quiet very nearly forty-eight hours. Then they sent for me to tap the canal again in order to give the child relief from the symptoms, which had appeared again. I did so, and the child again had relief, but of course died in probably twenty-four hours more. I have had more experience in these late cases for the purpose of relieving symptoms than anything else. The parents will thank the physician for doing anything to relieve the awful symptoms in these late stages.

THE ANATOMICO-PHYSIOLOGIC BASIS OF PEDIATRICS.

D. S. HANSON, M. D.
Cleveland.

[Read before the Ohio State Medical Association.]

In the evolution of medicine during the last quarter of a century numerous specialties have sprung up, and they mostly have their origin in the fact that practice in such specialties is confined to some special organ or part of the body. Not so with pediatrics, for its scope is as wide as medicine itself, and only becomes a specialty from the fact that the economy in undergoing rapid developmental changes at this period of life, and many organs and parts of the body are radically different than in adult life, while some

of the most active organs atrophy and partially or wholly disappear. This change in anatomical structure must necessarily produce an altered physiology and a pathology demanding a different therapeutic management.

Physical and mental qualities of the child vary more than that of the adult and require a greater adaptation of the medical attendant.

Then again, the child is subject to a class of diseases, the so-called "children's diseases," from which the adult as a rule is immune.

The most convenient way to give a brief analysis of the peculiarities of the child's structure, as compared to the adult, is to look over the different systems making up the body, noting the characteristics of each. Those chiefly to be mentioned are the osseous, digestive, circulatory, nervous, respiratory and glandular systems.

The bones, including the teeth, in early life are developing rapidly, changing from cartilaginous to the osseous by a process so familiar to you all that it will only be gone into briefly.

Some bones, like the inferior maxilla, are very strong at birth, as any obstetrician who has delivered many after-coming heads can testify, for it will withstand all the traction that can ordinarily be made with two fingers in the mouth. The clavicle is another bone that has an early development and is thereby able to help keep the shoulders up and back during this early period, while the vertebra develop slowly, only becoming completely ossified at about the twenty-fifth year, a fact never to be lost sight of in the management of children, especially during the schooling period, for other things being equal, it is safe to bet on the man with an erect spine.

A correct understanding of the development of the spinal vertebra teaches us what to expect in a physiologic way and the possibilities in tuberculosis or other bone diseases.

The periosteum covering the growing bones is thicker and more vascular and seems to be much more liable to take on inflammatory changes and the bone become infected from trauma or other causes than in the adult. Doubtless any of you can remember disastrous causes of osteo-myelitis resulting from trifling injuries, while the great liability of the growing bone to tubercular changes hardly need be mentioned to be appreciated.

The entire process of teething is peculiar to this period of life and the many and various nervous phenomena, febrile disturbances, digestive disorders, etc., attendant thereon is everywhere at hand, and many neuroses, nervous habits and afflictions of later life have their origin in this process.

I have often heard young adults complain about the suffering and annoyance produced by the eruption of a "wisdom tooth." How much more, then, must the child have to endure while an entire set is making its appearance?

The open sinuses and fontanells of the skull of the infant and young child are radically different from the solid skull of the adult, and a knowledge of the time of bony union between the shafts and epiphyses of the long bones is often of great assistance in making a diagnosis of injuries to such bones.

The bone deformities due to rickets, malpositions, etc., so common at this time, in fact peculiar to this time of life, would take too much time to discuss here and have such a wide range that orthopedic surgeons are in demand everywhere.

Yet in reference to rickets, which is so often neglected through the fact that an early diagnosis has not been made, we wish to say that after the pot belly, flabby muscles, irritable nervous system, square, sweating head, with absent or diminished hair on occiput, with kyphosis and enlarged spleen added to the rosary, enlarged epiphysis at the wrists with delayed dentition, the disease can readily be distinguished, but much better results can be obtained from treatment if we carefully examine these children for the four early cardinal symptoms, the rosary at junction of cartilages and ribs, the square head, enlarged epiphysis at wrists and delayed dentition.

Bossi reports some remarkable results in the treatment of osteomalacia by adrenalin, and suggests its use in rickets, in fact reports two cases in which deposits of bone rapidly took place under its use.

Recent work done by the Roentgen method in diagnosing bone disease in early stages is well worth much study. For example, many cases of rickets in the very earliest bone changes show evident disease in the epiphyseal line. As the normal development of the bones of a series of children becomes known by examination made at stated intervals by this method, we will have a better standard of comparison than previous studies have given us, and it goes without saying that the better normal development is understood, the easier slight change from disease can be noticed. Not only has this method shown the changes early in rickets, but congenital deformities, secondary infections from tuberculosis, typhoid fever, scarlatina, etc., can be correctly diagnosed at a very early period. Unfortunately, the apparatus necessary for this work can hardly be used largely for acute diseases, as an expert is necessary both to take the pictures correctly and interpret the plates.

Digestive System—The digestive tract in the new born relative to length of body, according to Beneke's tables is 570 to 100; second year, 660 to 100; seventh year, 510 to 100, and at thirteenth year 470 to 100, and these figures have many times been quoted to explain the better and more easy assimilation of milk in the infant and young child. The muscular coats of the stomach and intestines is but feebly developed. The mouth dry and not enough secretion from the glands of the buccal cavity takes place to convert starch even in a minor degree for the first three months, and very little after that period until about the end of the second year.

Numerous diseases peculiar to this period of life, such as stomatitis in the various forms, often are to be seen in the mouth.

The glands of Brunner and the follicles of Lieberkuhn are scarcely functioning during the period of infancy while the abundance of lymphoid in the solitary and agminate glands accounts for the freedom with which fat is absorbed. The pancreas does not attain its full power of converting starch into sugar until after the first year, while in strong children the pancreatic secretion will digest proteids during the first month.

The rectum is so loosely attached and so perpendicular, owing to lack of the sacral curve that prolapsus of rectum and anus is common. The large intestine of sigmoid flexure at birth is one foot in length while the sigmoid is ten inches long, very movable and often misplaced, which accounts for so many stubborn cases of constipation in the infant, and also a reason why an anema should be preferred to a purgative.

The stomach of the child is relatively small and its long axis in line with œsophagus, thereby rendering vomiting or regurgitation easy and gives us a hint that it is not to baby's best interest to toss him about and invert him when his stomach is full.

The jejunum occupies the left iliac region and the ileum the right in children, and the glands in the duodenum are well developed and liable to ulceration in severe burns of surface of body, especially so when such burns are on the abdomen.

The small intestines, according to Treves, measures nine and one-half feet at birth and grow four inches during the first two months, and intestinal obstruction from invagination is much more common in the child than in the adult.

Owing to the smallness of the infantile pelvis, the bladder is mostly in the abdominal cavity in close relation to the anterior abdominal wall,

reaching, when distended, nearly to the umbilicus, is very loosely attached, being much more movable than in later life, the anterior surface being even more free from peritoneum than in the adult.

In all acute diseases of children it is of the greatest importance to keep the alimentary tract in as good a condition as possible.

The circulatory system of the child, like the adult, is composed of heart, arteries, veins and lymphatics. In the infant there seems to be a definite ratio between the weight of the liver and the heart, kidneys and spleen—heart to liver, 1 to 7; kidney to liver, 1 to 9, and spleen to liver, 1 to 10, which ratio is not maintained later in life. The pulse is relatively fast and often irregular in rhythm, probably due to lack of development of the inhibitory centers. The apex of the heart strikes the chest wall on a line with the nipple or external thereto, and is high.

Keating gives figures to show that the volume of the heart to the width of the aorta in the infant is 25 to 20; at puberty, 140 to 50, and after puberty, 290 to 61. This necessarily means low blood pressure in the infant and young child and accounts for the rapid exhaustion so often seen clinically. Conversely, it is held that the circumference of the pulmonary artery to that of the ascending aorta at the end of the first year is 46 to 40, while in the adult it is about $35\frac{1}{2}$ to 36, which must mean a greater blood pressure in the lungs of the child than in the adult, which no doubt has a very important bearing upon the nutrition of the developing child. Benneka gives the annual growth of the heart in the child at eight per cent., while during puberty it is 100 per cent. These figures certainly have a very important value clinically and no doubt gave origin to the notion so widely entertained by the laity that the child will outgrow heart disease. At any rate, it gives us a very strong hint of the time most favorable to treat organic cardiac diseases.

The blood of the infant undergoes rapid changes after birth, the mass becomes less, a sort of concentration taking place from loss of fluid. The ratio of weight to that of the infant is 1:19.5, while in the adult it is 1:13. The specific gravity is lower in the infant, 1.048 to 1.055, owing to the small per cent of salts, fibrin and albumin. Red corpuscles rapidly decrease from 7,000,000 to 4,000,000 in four or five days. The white are more numerous in the child and reds are relatively greater, according to Demme, 135 to 200 to 1 white for the first 150 days.

The nervous system in the child is radically different from that of the adult. In no other

system is hereditary influences so frequently apparent, not only with reference to function, but structure as well. This is not to be wondered at when we consider the fact that the nervous system is the great controller, nearly or quite, every function of the body depending upon the stability of the nerve supply.

In the brain of the child activity is seen as nowhere else. It about doubles in weight in two years and is educated at a rate which, if maintained, would make the present intellectual development of the adult look almost like idiocy. This rapid growth of the brain goes on for the first seven years, and after that much more slowly. The sulci of the child's brain are more shallow and the convolutions less complex than in the adult. This rapidly developing brain is naturally sensitive to injury, infection and reflex irritation, and is many, many times irreparably injured by overworking the developing nerve cells. So much has been said and written about this senseless crowding and over-stimulation, and thereby exhaustion of the nerve power, leading to deficient future nervous energy and mental force, that I will only mention to condemn it.

The spinal cord and cerebral and spinal nerves are not greatly different than in the adult, although functioning less completely in early life.

There is greater irritability of the motor, sensory and vaso-motor nerves, the great liability to convulsions in the young child is largely due to this increased irritability of the peripheral nerves of skin, digestive and respiratory tract, but also to the fact the inhibitory centers in the brain and spinal cord are unstable, and poorly developed at this period. We see very severe sequelae often follow very slight lesions of the nerve centers, as an example, the serious infantile paralysis following slight cerebral hemorrhages; probably this is not so much due to the direct injury as to the interference with development.

No place in medicine is the deleterious effects of the violation of the laws that govern hygienic living so fruitful for evil, as upon the developing nervous system of the child; and the more pains we take to teach the laity the importance of this fact, the more fully are we doing our duty to the child.

The respiratory system presents several anatomical peculiarities in the child, the nasopharynx is very small and narrow, it is supplied with a super-abundance of lymphoid tissue, the veins have a more direct connection with veins of the cerebrum. The lungs are at first relatively small, but grow rapidly owing to the fact that

blood pressure is comparatively high in the lungs of the child, thereby stimulating the nutrition of the lungs; diaphragm is high, the central attachment on left side at fourth cartilage and on right at fourth interspace. The bifurcation of the trachea is higher, the top of the sternum is opposite first dorsal vertebra while in the adult it is opposite the second, and ribs are more elastic during the early period of life.

The rhythm of respiration, like the pulse, is somewhat irregular in early life, and must be taken into consideration in making examinations in pathological conditions.

Puerile breathing is generally considered to be due to narrowness of the respiratory passages. Primary involvement of the lungs in tuberculous processes is comparatively rare in the child, and when it occurs does not follow the usual progress from above downward, but is diffuse, the base often being first affected, while fibrous tuberculosis is unknown in the child.

In discussing respiratory conditions in childhood one's attention is at once directed to that distressing diseased process, enlarged adenoids. Dr. J. H. Pleasants, in examining 840 children in the schools of Baltimore, found 270 cases of adenoids. This ratio is probably not larger than in other localities.

You no doubt are all familiar with the great amount of disease and suffering produced by neglected cases, suppurating diseases of ear, often resulting in deafness more or less complete, nervous distress due to lack of proper respiration, mouth breathing and lack of mental and physical development being the most direct result, and constitutional diseases of a great variety may be more or less remotely due to this disease and the anemia caused thereby.

A close observation of children who have adenoids even when not sufficient to seriously embarrass respiration, even in children who sleep with mouth closed, will show them to be poor sleepers, restless at all times, very troublesome to parents, both day and night, and after the removal of the adenoids the above named symptoms disappear, and in aggravated cases improvement is rapid beyond compare.

The glandular system. It is composed of two varieties of glands, those with and those without ducts. The former is composed of the sublingual submaxillary and parotid glands of the mouth, and the pancreas and liver; the liver is large in the child, in fact sometimes reaching as low as the crest of the ilium, and extends to left further than in adult; the protruding abdomen of the child so universally seen is due to the large liver

and small pelvis, this necessarily making a difference in the location of the other abdominal organs.

Abnormally large livers are met with in very fat children, often markedly rachitic children, especially of the fat flabby type; if due to syphilis, it is usually accompanied with or preceded by an enlarged spleen and craniotabes, while it is rarely small, sometimes in children emaciated from summer complaint, it is somewhat atrophied.

The kidneys are relatively larger than in the adult and located lower in the abdomen.

The ductless glands are in many respects much different in the child than in the adult, and are composed of the lymphatic glands, thyroid, thymus, spleen, pituitary body, and suprarenals, and no doubt have much to do with the processes of nutrition.

The entire lymphatic system of the child is much more easily irritated and is more sensitive to any infective agency than in the adult, as an example—it is well known that a diarrhea of not more than two or three day's duration will cause inflammatory enlargement of the intestinal glands, and when the diarrhea becomes chronic as in many cases of enterocolitis, the glands become hyperplastic and remain enlarged for long periods, and are then especially liable to tubercular infection. The same may be said relative to the cervical glands when enlarged from infection from the tonsil (which I believe to be rare) or from the naso-pharynx which is very common, for the lymphatics are much more plentiful in adjoining tissue than in the tonsil, this is especially true of the mucous and submucous tissue of the nasal cavity, and abrasions of the surface in this region are almost continuously present and catarrhal congestions are to be seen at every hand. If the source of the infection can be removed these enlarged glands will rapidly disappear, but as in the intestine, if they once become hyperplastic a return to a normal condition will be extremely slow and if a tubercular infiltration does not take place it is because some one has been wise enough to see that nutrition has been so well kept up that resistance has been to or above par.

Many times in young children, eczema of the scalp or face and other skin affections of the head or disease in the mouth are to blame for these cervical enlargements.

When we consider that there is not less than seven hundred of these glands in the entire body we can at once grasp the importance of keeping them in a normal condition as near as possible in the growing child. The anatomy, and probably

the physiology of the spleen is not greatly different than in the adult, however, it is relatively larger.

Bovaird and Nicholl, in their investigations of comparative weights of internal organs of infants and young children found the spleen usually greatly increased in size in congenital syphilis, general tuberculosis and general lymphatic hypertrophy, and usually extremely small in poorly nourished children.

The supra renals are very much larger, relatively, than in the adult, generally quite covering the kidney. This fact may, and very probably has, a very important bearing on the nutrition of the infant and child, probably having much to do with the proper development of the bones and of blood pressure; the latter is no doubt someway modified by this secretion if not entirely dependent upon the presence of it in the circulation, controlling, not only the tone of the blood vessels, but the heart as well, yet, this is not its only function else the blood pressure in the child would be much greater than in the adult, while the reverse is true. We know that medical substances obtained from this gland have astringent properties unequalled. We do not yet understand fully the entire function of this gland, but can readily see that great disturbance might occur if in the circulation in excessive or deficient amounts.

The thyroid in children when absent, or not active, produces cretinism. This usually commences during first year in total absence of the gland or its secretion, but when gland is not entirely absent, but diminished more or less in function, it may be delayed even to the eighth year.

The thymus gland is quite generally supposed to be present only in the child and to atrophy and disappear during adolescence, but recent observations have shown its presence later in life, although in a much atrophied and modified form; no doubt its function largely ceases with childhood. The thymus is a soft plump smooth mass of adenoid tissue made up of the two lobes, broadest at middle, tapering somewhat above and below. The great mass of it lies on the great blood vessels immediately above the heart, below it covers the pericardium to a greater or less extent: in some cases it completely covers the heart reaching to the diaphragm, laterally it reaches the roots of the lungs.

Friedleben devoted eight years of his life to the elaboration of this gland. I have not seen the original writing, but Bovaird and Nicholl say he gives a mass of data bearing on almost every aspect of the thymus question, which has not only been compiled with the utmost care, but in a

thoroughly scientific manner. His estimate of the average weight of the gland during the first two years is 300 grains. He obtained his figures by weighing the glands of healthy, well nourished babies that had suffered sudden death; his figures show the gland to vary from 10 grains to 660 grains. Such wide fluctuations are nowhere seen in any other gland or organ of the body; this weight seems usually to be dependent on the state of nutrition of the child.

Seydel regarded the thymus as a reserve storehouse for nutritive material, which is called upon at any time of unusual need, consequently the gland would be atrophied and exhausted in marasmus and wasting diseases.

His theory seems to "make good" in the majority of cases, yet not a few emaciated children have fairly large glands and other robust ones occasionally very small ones. While the usual process is for the gland to atrophy and become fatty as child increases in years, the reverse sometimes occurs, and it persists in the infantile state or continues to grow, maintaining the infantile character, called the persistent thymus, and is a part of the dyscrasia now known as the status lymphaticus.

The normal thymus no doubt plays a most important part in re-enforcing the processes of nutrition in the child and furnishes the major part of the phosphorus to the growing bones and nerves.

The status lymphaticus above referred to is now understood to be a condition in which there is hyperplasia of the thymus gland and of the lymphatic tissue generally. These children often suffer from syncope, dyspnoea and laryngismus stridulus.

The lymphatic tissue is composed, not only of above named thymus and lymphatic glands, but also the malpighian corpuscles of the spleen, the tonsils, adenoids and the lymphatic apparatus of the intestines. Probably in these cases of status lymphaticus we often have what is described as lymphotoxemia. Blummer says these attacks are intermittent and that during an attack there is increased danger from bacterial infection, from shock, either physical or mental, and death may be caused thereby under circumstances that would be trivial under normal conditions.

It seems that two conditions arise in connection with these glandular enlargements (Status Lymphaticus) in children, in which anesthesia is especially dangerous, goiter and adenoids, and if an anesthetic must be given, ether is much more safe than chloroform. All children with adenoids do not belong to this class, in fact only a small pro-

portion of them, yet a careful examination in all adenoid cases will show an occasional one in which no anaesthetic can safely be given.

Czerny describes a class of cases in which there is thickening of the lingual mucosa, seborrhea of the scalp, strophulus, prurigo, or intertrigo with severe itching and glandular enlargements, which he calls *the exudative diathesis* and which is very much like the status lymphaticus above described.

I will not enumerate the structural peculiarities of childhood to a farther extent than has been already mentioned, which I think has fairly well established the justification for much special study in this line.

In addition to what I have already mentioned, the acute febrile diseases, the exanthemata, diphtheria, and other contagious diseases of childhood, many, if not most of them avoidable, and the acute and subacute diarrheas due to improper feeding, are the most frequent causes of a large and partially unnecessary infantile mortality.

In closing allow me to call your attention to the importance of the fact that what may seem a trifling error of development in the child, may be and often is, the seed from which sprouts and grows, many diseases and deformities which are pregnant of evil in later life, and by a close and special study in the early stages, might have been easily and safely corrected, thereby saving much suffering and many untimely deaths.

No. 3290 East Fifty-fifth Street.

THE ECONOMIC IMPORTANCE OF THE SPREAD OF TRACHOMA IN OHIO.

WALTER HAMILTON SNYDER, M. D.,
Toledo, Ohio.

[Read before the Ohio State Medical Association.]

So much has been said and written of the dangerous consequences of the spread of this terrible disease that I refrain from taking up valuable time by proving anew to this audience how necessary it is that we know and act on the knowledge of its rapid increase in this state especially among the foreigners.

For those who are still in the debateable land I refer them to "Trachoma" by Boldt, and "Trachoma, Character and Effects," published by the Marine Hospital Service. These two monographs are especially directed to the importance of this disease in an economic manner.

Trachoma is best known under its Greek name, meaning "rough or granular lids"—and while not dangerous to life, it is exceedingly dangerous to

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follicular conjunctivitis which, getting well so rapidly while the others are getting worse, increases the general discontent and makes the ophthalmologist anything but a happy man. I have formulated a few positions which I wish to state, dogmatically, if you please, but I nevertheless believe them true.

1. Inspection alone will not arrest every case of alien trachoma even when the inspector is an expert veteran ophthalmologist instead of being what he usually is, a marine hospital surgeon with but necessarily a limited knowledge of the protean forms conjunctivitis may assume, as treatment is necessary in same cases to differentiate.

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In regard to the first statement I believe the most successful inspection is that abroad by the steamship companies for several reasons, they can get more expert diagnosticians than the marine surgeon because in Europe they are very familiar with this disease—sixty per cent. of all blindness in Europe is due to the effects of trachoma, while very few physicians in this country except ophthalmologists in large seaport cities or smaller inland manufacturing cities see much of acute trachoma. I mean *exactly* this disease, *not* acute conjunctival inflammation due to other infections. To the steamship companies it is a serious matter and I understand they have a very competent expert examine any suspected case before they allow him to buy a ticket and I firmly believe from what I know of the practice here that the good results are largely contributed to by the foreign inspection.

The object I have in view is to call attention to its rapid increase and that this is unknown to the general profession is instanced by the denial of this fact by health officers, school boards and those who ought to be watching such things closely enough to know when such a scourge as trachoma is rampant among the poorer classes and especially school children. The remedy for this is most difficult of application.

Perhaps, before we attempt to choose for our own country, let us see what is being done abroad.

Keeping in view the poverty of the patient, the time necessary for a cure to be advanced enough so it will be possible to finish the cure and allow the patient to work and the possibility, nay certainty of infecting others of the family unless isolation is practiced we have a condition which has puzzled the most paternal, and I believe in many

respects the best government in the world, the German.

The history of trachoma in Europe began in 1801 by infected troops returning from Egypt, and I shall only consider the reports made officially to the German government. This country has been the worst infected of any first class nation and has treated it as it should be treated, but unfortunately for America and her infected poor as it never will be while the present frame of mind regarding personal liberty obtains. In the German Empire the east and northeast was affected with endemic trachoma of the worst type, the infection coming from Russia, Poland and the Baltic provinces. Since 1897 a systematic school examination has been made and Kuhnt, the greatest expert in the world on trachoma, estimated the total in East Prussia as three and seven-tenths per cent, and that all classes are infected. In West Prussia Greef found four and five-tenths infection. The army was infected as follows: In 1875, nine and four-tenths per thousand and this care and treatment with the thoroughness which is the well merited pride of Germany, reduced in 1900 to fifty-five one hundredths per thousand. Russia probably has more trachoma than Germany, but the statistics are so unreliable that we must ignore them, but it has been estimated, showing the poor care they received, that ninety-six per cent of all trachoma cases lose their sight to a greater or less degree in the Russo-Baltic provinces.

Judging by the results obtained by Germany we may infer the following:

The treatment for our conditions is for the health boards to declare it a dangerous contagious disease. The school boards especially in certain districts should have every child examined by an expert, not a local health officer nor general physician. No child should be allowed to attend school with inflamed eyes even though not trachomatous, and the promiscuous herding together of families, boarders and lodgers should be prohibited when any one in the group has inflamed eyes. Neglect of a warning should result in forced isolation with much greater necessity than smallpox is isolated. The local health board should establish trachoma clinics for the poor out patients and trachoma hospitals where the necessary excision, etc., can be done and then return them for the dispensary to cure. In other words, every possible means should be used to prevent the spread of it as this is easily done. Ordinary habits of cleanliness sufficing usually, but when a dozen people use the same basin, soap and towel, it would be a miracle if some one did

portion of them, yet a careful examination in all adenoid cases will show an occasional one in which no anaesthetic can safely be given.

Czerny describes a class of cases in which there is thickening of the lingual mucosa, seborrhea of the scalp, strophulus, prurigo, or intertrigo with severe itching and glandular enlargements, which he calls the *exudative diathesis* and which is very much like the status lymphaticus above described.

I will not enumerate the structural peculiarities of childhood to a farther extent than has been already mentioned, which I think has fairly well established the justification for much special study in this line.

In addition to what I have already mentioned, the acute febrile diseases, the exanthemata, diphtheria, and other contagious diseases of childhood, many, if not most of them avoidable, and the acute and subacute diarrheas due to improper feeding, are the most frequent causes of a large and partially unnecessary infantile mortality.

In closing allow me to call your attention to the importance of the fact that what may seem a trifling error of development in the child, may be and often is, the seed from which sprouts and grows, many diseases and deformities which are pregnant of evil in later life, and by a close and special study in the early stages, might have been easily and safely corrected, thereby saving much suffering and many untimely deaths.

No. 3290 East Fifty-fifth Street.

THE ECONOMIC IMPORTANCE OF THE SPREAD OF TRACHOMA IN OHIO.

WALTER HAMILTON SNYDER, M. D.,
Toledo, Ohio.

[Read before the Ohio State Medical Association.]

So much has been said and written of the dangerous consequences of the spread of this terrible disease that I refrain from taking up valuable time by proving anew to this audience how necessary it is that we know and act on the knowledge of its rapid increase in this state especially among the foreigners.

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not infect all the rest. Lectures illustrated by colored lantern slides should be given in their native language and the children be rigorously excluded from schools. This will awaken them to a sense of their danger and the people affected being accustomed to a paternal form of government take kindly to free clinics and instruction, in fact the older ones are so accustomed to a warning from the local authorities in matters of health that they do not seem to realize that they are in a free country where one has the right to give contagious diseases to any one he will and when every one must look out for himself and where health boards composed of laymen, and political doctors as appointees, deny the existence of anything the boards do not want to have in their jurisdiction. Of course, all this isolation must be preceded by proper facilities for treating these cases. "The horse must precede the cart," so no excuse can be given that because of poverty, etc., they cannot afford treatment, and it might be emphasized that half-way measures are of no avail in stamping out trachoma. It is a maxim that the partially cured cases must be kept under medical supervision for a long time to insure a permanent cure. Absence of this control means frequent relapses with consequent damage to the cornea and economic loss of wages, etc.

Many after a month of active treatment are ready for work and can go on to a cure by a weekly or monthly supervision.

Another class should be taken to the hospital, excision done and after the surgical reaction is over, returned to the trachoma clinic nearest their home for the remainder of their treatment.

There will always be differences of opinion as to the proper treatment, but I take the stand in presenting this paper that any one of the various treatments will cure and the matter is summed up by Kuhnt's Classical Statement.

"In infected districts the mechanical methods (Expression, etc., etc.) are, generally speaking, only to be recommended for persons belonging to the better classes and for intelligent persons belonging to the working classes endowed with a due regard for cleanliness, because it is only in these two classes that we can be sure that reinfection will not necessarily occur. For the great mass of patients some operative procedure suited to the individual case, and carried out with caution may be indicated at the outset.

Finally, in all bad cases, even in non-infected areas, where the fornix remains persistently swollen and the tarsus thickened, in spite of repeated expression, the only proper treatment, in my opinion, is a suitable excision. Yet I trust

there will no longer be any doubt that it shows as little discrimination to advocate the use of mechanical methods on the other hand, as to shower unstinted praise on the method of excision on the other. Both methods deserve consideration and give good results, but—each in its place!"

I do not wish to introduce an argument as to the best treatment, but to those who oppose excision and some excellent men do, I wish to say that Kuhnt, who formerly opposed excision, had as he expressed it, "to listen to necessity," owing to the failure of all other methods in treating trachoma in East Prussia.

If then a double system of inspection and the free use of the police was necessary in Germany to control this disease, what can be done in Ohio with its many cults of "personal liberty" and "license," and where the "anti-vivisectionists," "anti-vaccinationist" and "anti-common sense" generally bloom in every corner?

Something should be done at once to bring this dangerous menace to the public notice, and if then the public do not care to use the methods used in Germany so successfully, the medical profession cannot be charged with negligence in not notifying the public of the danger and the future generation will be left to fight it, with, I hope, an enlightened public and a heavy purse to do what could be done now with a minimum amount of expense which will only increase as the time rolls on.

DISCUSSION.

Dr. Brand, Toledo: I hardly think it proper that a paper of such vast economic value should pass by unheeded by the state society. It is possible that a great many of you who come in contact with the foreign element are gradually beginning to realize the increase of trachoma. It is also true that a great many practicing among the foreign element do not recognize trachoma, but pass it off with a little tonic lotion and see the case once or twice and it will pass out of their hands entirely. This disease is present more than any of us realize. It is confined chiefly to the Bulgarian and the Hungarian nationalities, but it will in a short time affect the other foreign settlements of the city through the people of the different races being employed in the same factory.

We need first of all a most thorough and systematic health organization, such as spoken of in Germany, where the board of health has some significance even in the smallest community, not as in Ohio, where the chief duty of the hygienist seems to be the ordering of the removal of garbage heaps, etc. It is the duty of the physicians of the state, as humanitarians, to demand that they shall have trained sanitariums, trained hygienists, who study these things, as this will continue to spread until the disease is recognized, is isolated and can be treated in the proper manner.

Dr. Snyder (closing discussion): The thing I am particularly interested in is not the adult, but the child. I am constantly seeing these children infected with this disease. They are going to the public schools, and the other children get infected, I cannot say how. This will mean an enormous money loss. Every dollar spent on this now would save a hundred dollars expenditure on it later. Germany has spent millions in doing this; England is spending much money, as is France. This disease ends with sufficient blindness to unfit them for any but the cruder classes of work.

I am disappointed that so little discussion has been given this, for I do appreciate its importance, as every ophthalmologist does in a manufacturing district. We will have the necessity of fighting this later, as they are doing in Germany.

ACUTE RHEUMATOID INFECTIONS IN CHILDREN WITH REPORT OF CASES.

F. P. ANZINGER, M. D.
Springfield.

[Read before the Ohio State Medical Association.]

That children are more susceptible to infectious diseases scarcely needs comment when we recall that a special group familiarly termed "The Diseases of Childhood" mostly include a microbic etiology and the remainder strongly suggests the same. The explanation rests with the cell-complex of the child, which is not fully developed and trained to combat with these extrinsic agencies.

Later the specialized cells furnish internal secretions and immune bodies which protect against subsequent invasion of the same offenders.

Passing over this group of diseases we recognize another class commonly called "The Pyogenic Infections," which in children are far more common than in adults. When mild in character the symptoms are often disregarded, and only later, when a serious cardiac lesion appears, do we fully appreciate the importance of our neglect. At times the infection furnishes widespread metastases with serious damage to the anatomical structures. The predilection for the long bones and joints with their contiguous structures is well known, and when the attack subsides without severe local reaction it often passes with a diagnosis of "rheumatism or growing pains." The much abused term "rheumatism" even to this day covers up a multitude of sins of the medical profession as well as of the laity.

Rheumatism with our forefathers was a humor to be driven out of the blood. With the recent developments of bacteriology and pathology, rheu-

matism resolves itself into an arbitrary classification depending upon the symptom complex and etiology. We now have acute articular rheumatism, acute infectious polyarthritis, arthritis deformans, gout, myositis, neuritis, hysterical and tabetic joints, etc. The title of my paper refers to infections in children, which simulate acute articular rheumatism, some of which must be clinically treated as such until the developments prove the true nature of the disease. An early differential diagnosis is essential in the doubtful cases in order that we may be prepared to give surgical relief when such be required.

From what has been said above, we infer that acute articular rheumatism is a specific disease entity which should be distinguished from the pyogenic group of infections. Quoting from *The American Text-Book of the Diseases of Children*:

(Acute articular rheumatism is a specific febrile malady, characterized by inflammation of fibrous tissues, particularly those surrounding the joints, of which many are apt to become involved simultaneously or in succession. There is also a strong tendency for the serous membranes, especially those of the heart, to become involved, and in children we frequently find these bearing the brunt of the disease while the articular affection is very slight.)

The carefully worded definition implies that the author is noncommittal as to the etiology of this specific malady. The medical profession in general now believe strongly in the infectious nature of the disease, but as to a specific organism widely different views are entertained. Until we can establish the *Biococcus* *Diplococcus* *Rheumaticus* or some other specific organism as etiological factor, we must still adhere to the clinical characteristics, which, as I will show, are not altogether trustworthy.

A brief comparative analysis of acute rheumatism and the pyogenic infections may be made to advantage.

Source of Infection—Both diseases in children follow the same avenues of invasion, chiefly the tonsils, adenoid tissue, uro-genital and intestinal tracts.

Predisposition—In both the so-called "rheumatic diathesis" may be found in the family tree. Second in importance is poor hygiene. Add to these exposure to trauma, dampness and cold, and we have the soil suited for most any bacterial invasion.

Sex. In adults both groups of infection are more common among males; in children the cases among females outnumber the males.

Age. Acute rheumatism is uncommon in children, whereas pyogenic infection occurs frequently.

Pathology. Both diseases seldom prove fatal, which gives meagre opportunity for the study of anatomical changes. Some investigators have from time to time found certain micro-organisms in the infected tissues, whereas others have found the parts sterile when subjected to cultural tests. It is probable that in many instances the bacterial toxins produce the widespread lesions which may explain the discrepancy in the findings.

Symptoms. In adults pyogenic infections usually progress without metastases; in children they may rapidly jump from joint to joint, remissions and exacerbations following close upon each other, thus following closely the clinical course of acute rheumatism.

Suppuration is rare in rheumatism; likewise in pyemic infections the chemotaxis may be negative and the suppuration be delayed or entirely wanting. Cardiac lesions may predominate in either case and overshadow the joint lesions. The temperature curve in pyemic infections is usually higher and more persistent than in rheumatism. The tongue and the sweats are rarely helpful in the doubtful cases. Erythematous rashes and the progressive anemia are usually common in the two diseases.

Complications—In either case we may have endocarditis, pericarditis, myocarditis, pleuritis, tonsillitis, chorea, delirium and extreme restlessness, gastro-intestinal irritation, etc.

Duration—Both diseases may abort within a few days, but rheumatism more often follows a definite clinical course, covering a period of three weeks, but relapses may prolong the same for one or more weeks. Pyogenic infections, if not cut short by a crisis, may follow a course varying in time and intensity. Complications in either case may prolong convalescence indefinitely.

Prognosis—Acute rheumatism rarely proves directly fatal, but pyogenic infections occasionally will, as illustrated by one of my cases. Recovery from either disease makes the host more susceptible to subsequent infection, and each attack may add to the permanent damage to the heart and other vital structures.

Treatment—This in general is similar in the two diseases. Rest in bed between blankets, anodyne applications to the inflamed parts. Contrary to the so-called authorities, I believe that in pyogenic infections pain and swelling will often respond to alkaline and salicylate equally as effective as in acute rheumatism, which makes

the diagnostic value of the treatment practically nil. Quinine, opium and the bromides have their indications and usefulness. Baer's hyperemia may prove effective in select cases, especially when the infection is limited to only a few accessible joints. The isolation of the specific organism should furnish an effective antitoxin which would be the ideal remedy in controlling these destructive diseases. A very essential point in the treatment is watchfulness. The diagnosis not established on basic principles and the etiology difficult to establish in many cases, we should ever be mindful of an insidious yet slowly destructive infection, which with slight external evidence may be dealing slough and necrosis of the deeper tissues. Doubtful parts should be subjected to exploratory incision, which under careful surgical technique, will be safer than waiting for pus, which may never develop.

With these preliminary remarks I shall report a few illustrative cases, hoping that they may aid in establishing a better understanding and classification of the rheumatoid infections in childhood.

Case one, female, aged 12 years.

Family History—About one year ago the father was confined to bed for three weeks with acute articular rheumatism. During the patient's illness (to be reported) the little brother, aged six years, was limping and complained of pain in the left hip. He recovered within ten days without medical attention. The patient's home is not ideal as to general hygiene, there being a large family and the brick house very damp.

Personal History—Patient is a girl of medium build, well nourished and always well.

History of Present Trouble—On April 27, 1907, she was in apparently good health and jumping "hop scotch" at school. The next two days she could scarcely walk on account of pain and swelling in the left hip. I was called on the third day and found as follows:

5 p. m., temperature 101.8°, pulse 128, the left trochanter is red and intensely swollen; the thigh is flexed and adducted and the foot inverted. Motion of the limb is restricted and very painful. The mother directed my attention to a small mark on the right forearm, which was the remains of a healed boil. I left town the next day and now report from Dr. Martin's record, who took charge of the case:

Fourth Day—A. m., temperature 99.8°, pulse 120; p. m., temperature 101°, pulse 112; soft systolic murmur over apex of heart. Left hip same as above. Ice bag applied, calomel salicylates and alkalies given.

Sixth Day—The left hip is better; swelling and redness developed in the right ankle. The upper and inner portion of the left scapula pains on motion. The evening temperature is 101° , the pulse 112.

Seventh Day—The left scapula and hip are much better; the swelling in the right ankle is worse and extends up the leg. The systolic murmur is still present. Examination of the lungs and urine negative. The evening temperature is 101.6° , the pulse 108, respiration 44.

Eleventh Day—Drs. Rind and Martin in consultation agree that the cellulitis in the right leg does not indicate any evidence of bone infection. This swelling and redness varies, at times better and then worse. The temperature is 101, the pulse 104.

Fourteenth Day—The left hip is almost well with free motion of the joint. The swelling in the right ankle and leg has subsided. The pains require no opiate. The boil on the right forearm reformed and discharges considerable yellow pus.

Sixteenth Day—(I resumed charge of the case.) Morning temperature, 103.6° , pulse 122, respiration 48. The patient is anemic, the skin dry, the tongue moist and clean, moderate sweating, considerable dyspnoea, the left trochanter is slightly swollen and tender, the skin over the right leg is slightly red and the soft parts swollen; the right ankle joint has a slight effusion and is very tender. Systolic murmur quite marked but soft. The lungs are negative. The urine shows usual febrile changes.

Eighteenth Day—The temperature is 102.6° , the pulse 112, the respiration 48. The left hip is more swollen. The effusion in the right ankle is lessened. Transient erythematous blotches crop out over the forehead, face and trunk. The general condition is apparently better.

Twenty-second Day—Temperature 98.6° , pulse 100, respiration 32. The left hip joint is freely movable without pain; the right ankle and leg are less swollen. A slight pleuritic effusion with pain, which occurred in the left thorax within the past few days has cleared up. The dyspnoea is gone. The systolic murmur cannot be heard.

Twenty-third Day—Temperature 101.4° , pulse 110, respiration 32. The left hip is swollen again, the right leg and ankle are more painful and swollen, another crop of erythema is noted over the body, crepitant rales are heard over the left lower lobe of the lungs. These fluctuations continue, one day better and then worse.

Fortieth Day—The patient is losing ground; anemia and emaciation progressing, the temperature remains near 100° , the pulse constantly at

96. A pressure sore has developed over the right external malleolus, the skin over the right leg appears anemic and sunken as if covering dead space; the right ankle and the left hip are considerably swollen and painful. Exploratory incision over the left trochanter yields a large quantity of yellow pus of sweetish odor, which has dissected and distributed itself along the deep muscle and fascia of the thigh and buttocks. Cultural tests showed the presence of a pure strain of staphylococcus aureus.

Forty-first Day—I made an exploratory incision over the tibia, fibula and ankle. These revealed a non-suppurative sloughing of the muscle and fascia, also superficial necrosis of the shafts of the tibia and fibula.

Forty-third Day—The deep abscess over the left hip is rapidly healing under free drainage. The right leg and ankle are less swollen but only drain a little serum. The foot is edematous, due to venous stasis. The general condition of the patient is much improved. The temperature remains about 99.4° , the pulse 128. The appetite is much improved and forced feeding is encouraged to prepare her for bone section.

Forty-seventh Day—The general condition is unchanged excepting the patient has gained in color and weight. The swelling and edema in the foot persisting, I made exploratory punctures over the foot, but the structures showed no evidence of infection. (Venous stasis.)

Fiftieth Day—Patient removed to the hospital. On section of the right leg I found superficial necrosis of both shafts, and the head of both the tibia and fibula completely disintegrated. I was obliged to remove all of the head of the tibia, leaving only a shell posteriorly to preserve the periosteum. The head of the fibula and the lower fourth of the shaft were completely removed. The muscle and fascia had recovered from the infection and regeneration was found well under way. The subsequent treatment consisted of packing the bone spaces and smoothing the incisions by sutures. My pessimism as to the ultimate recovery of the leg caused a misunderstanding and Dr. Link took charge of the case. He informs me that the leg gradually healed after continued dressings for a few weeks. The little girl is now well, and excepting for a stiff ankle has quite a useful leg with no apparent shortening.

Case Two.—Male, aged 22 years; occupation, bookkeeper; status, single.

Family History—The father has had attacks of acute eczema, the mother had chronic mucopurulent bronchitis for years, and recently had facial erysipelas.

Personal History—Patient has had good health, temperate habits and indulges in outdoor sports.

History of Present Trouble—He was working in an office in Chattanooga, Tenn., during March, 1906. Owing to repairs the office was without heat and the room was cold for two weeks. He felt bad for a few days and finally went to the hospital. The records were sent to me and are briefly as follows: (March 12, 1906. Patient has severe pains in both shoulders, the left hip and ankle. The temperature varies from 100° to 103°, pulse 80 to 92. He is at times delirious and sweats profusely. Treatment consists of saline waters, purgatives, salicylates and anodyne applications. After the seventh day the temperature ranges between 99° and 101°, pulse 78 to 84. The swelling has subsided in all the joints except the left hip.) At his request he was sent to his home in Springfield, Ohio, and he then came under my care. My record in brief is:

March 12, 1906—Patient is of medium frame, muscles large, anemic and slight loss of flesh. Temperature 99°, pulse 76. The left trochanter is swollen and tender. The examination of the heart and urine prove negative.

March 27, 1906, (Fifteenth Day)—Temperature 101.8°, pulse 104. The left hip is more swollen and on alternate nights causes much pain. The hamstring muscles of the opposite thigh are painful on motion. Hot applications of oil of wintergreen rub used locally and salicylates and morphia given internally.

March 30—The hamstring muscles are not painful, the left hip is tensely swollen, but the skin is not red or inflamed. A soft systolic murmur is heard over the apex. The patient is quite restless and suffers much pain.

April 2—The patient complains of pain in the trapezius muscle near the occipital insertion. The left hip is less swollen. The temperature is 100° to 101°, pulse 88.

April 6—The pain in the trapezius muscle is gone. The left hip is more swollen. Urine examination is negative. The hemic murmur is the same. Temperature 99°, pulse 80.

April 9 (Twenty-seventh Day)—The left hip is still swollen and no evidence of fluctuation or fluid. With a long exploratory needle a deep abscess is discovered, which yielded on incision about one-half pint of yellow pus. The abscess does not involve the joint but has dissected among the muscle and fascia over the hip. *Staphylococcus aureus* is found on culture.

The patient made a rapid recovery and two

weeks later returned to Chattanooga for duty. Subsequent report after months finds him well.

This condition, although not in a child, proves interesting.

Case Three. Female, aged 5 years.

Family History—The father is of large frame but subject to tonsillitis and attacks of acute bronchitis. The mother is of delicate build with shortening of one extremity due to hip disease.

Previous History—In February, 1905, I treated her for follicular tonsillitis. April, 1905, she had acute catarrhal jaundice. December, 1905, she had an attack of acute pharyngitis, cervical adenitis and otitis media of both ears. At this time the temperature was 101° to 103°, respiration 28. Pin-head papules and vesicles, also erythematous spots occurred on the upper arms, legs and buttox. The lungs were markedly congested. The urine showed the diazo reaction but was otherwise negative. She recovered in one week but with persistent discharge from both ears. Scarlatina was suspected, but not confirmed. In January, 1906, she had acute parotitis. April, 1907, while in apparent health she developed erythematous spots over both cheeks. This was taken to be of autotoxic origin.

She has recurrent attacks of discharge from both ears even when in seeming good health.

History of Present Trouble—On February 16, 1908, the left ear, without any prodromal pain, begins to discharge pus. The next day the patient complains of severe pain in the right hip. The temperature is 100.4°, pulse 100. The patient is very stubborn, which makes the examination difficult. The whole right hip, especially extending toward the buttocks, is painful and swollen. The joint is not involved. Local applications of oil of gaultheria and heat, also opiates are given. Castor oil has been used. On the third day the patient begins to sweat, the fever subsides and the pain and swelling disappears. (The ear received only cleansing douches.)

Fourth day finds the patient free from all symptoms excepting the running ears. The heart shows nothing except an irregular rhythm, which is of neurotic origin.

Case four. Female, aged four years.

Family History—One sister, aged 24 years, has atrophic rhinitis, also a severe mitral insufficiency with good compensation. The origin of the cardiac lesion not discoverable from the history.

Present History—The patient is delicate in build, but has had fair health.

History of the Present Trouble—On March 9, 1908, I was called to see her on account of a dif-

fused redness and swelling of both feet and ankles, also the right knee. The parts were very painful to the touch. She had nose-bleed and coryza on the preceding two days, which was ascribed to gripe. Influenza was endemic in our city at the time and another child in the same family had symptoms of the disease. On examination I found a soft but distinct systolic murmur at the apex. The urine showed a few granular casts and abundant cocci in the fresh specimen. No albumen present. The temperature was 100.2°, the pulse 128, respiration 28. Patient was kept in bed, the parts smeared with oil of gaultheria and wrapped in cotton. Calomel and salicylates were given internally.

Second Day—Temperature 101.6°, pulse 128. Patient had a restless night. The extremities are no better.

Third Day—Temperature 98.6°, pulse 120. The pain and swelling in the legs is almost gone. The heart murmur remains unchanged.

Twelfth Day—The patient on examination at my office shows marked improvement in color, has a good appetite and all symptoms have disappeared. The hemic murmur is still present and probably represents an old lesion.

Case Five. Female, aged 10 years.

Family History—The father is in good health. The mother is very delicate and subject to hysteria. One sister died in infancy.

Personal history not obtained.

History of the Present Trouble—One week ago the patient while in play was accidentally kicked above the right ankle. There was a slight contusion and pain, the latter persisting but not sufficient to interfere with her household duties.

February 7, 1908—(One week after initial injury.) The patient is taken this afternoon with a severe chill and high fever. Dr. Brown is called and finds temperature 104°, pulse 160. The right ankle is slightly swollen and red. It is very painful to the touch.

February 8—In consultation I find this morning temperature 105°, pulse 160. Examination of the lungs is negative. The patient is very restless and suffers great pain in the right ankle. In the afternoon under general anaesthesia I make an exploratory incision over the swelling. Under the annular ligament the probe brings forth a dark brown grumous material and reveals roughening over the head of the fibula. The parts are exposed by incision and the most of the necrotic bone removed. The wound is packed for hemostasis and left unsutured for subsequent drainage.

The patient does not rally from the anaesthetic until a few hours later after free stimulation.

February 9—At 9 a. m. the temperature is 99.4°, pulse 130. The patient is resting well. During the afternoon she complains of sharp pains in the right side of the thorax. Morphine and heat relieve the same. Stimulants are used freely for the weak heart action. At 9 p. m. the temperature rises to 101°, the pulse remains 130.

February 10—At 9 a. m. the temperature is 100°, the pulse 130. The patient has a septic breath, the pain in the chest is gone. The dressings from the ankle wound showed only a little serous discharge. The bone does not bleed. The patient fails during the night. Temperature remains 100°, the pulse 130.

She died the following morning from general septicemia.

From the above findings we may establish the following conclusions:

1. Children are susceptible to the infectious diseases which most adults resist by acquired immunity.

2. Acute pyogenic and septicemic infections are common and often starting from a trivial lesion permit widespread metastases and even may prove fatal.

3. In children the soft tissues, especially near the epiphyses and joints are vulnerable points for micro-organisms and their products. The symptoms of such lesions often simulate acute articular rheumatism.

4. Acute rheumatism is regarded as a specific disease due to a specific organism not as yet fully established. Until such an etiology is known we must depend upon clinical characteristics, which are untrustworthy.

5. Acute rheumatism is comparatively uncommon in children, whereas pyogenic infection finds them frequently among its victims.

6. Heredity and environment are important factors in the predisposition of the child to infection as well as rheumatism.

7. Prophylaxis rests in safeguarding the child's general resistance by proper hygiene. A careful watch should be had of the infectious antra of the child, and every trivial infection be properly treated.

8. When one or more joints become acutely inflamed tentative measures are justifiable for a short period to allow for resolution or abatement. If, however, the symptoms continue and the diagnosis is obscure, exploratory incision will in the end subserve the best interests of both patient and physician.

REMARKS CONCERNING THE HYGIENE OF MENSTRUATION.

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[Read before the Ohio State Medical Association.]

The subject of menstruation is a very important one, and the discussion of so vital a topic must of necessity cover a large field. Hence it is my intention to discuss with you only a few of the conditions and anomalies related to this important function, and especially those relating to the hygiene of menstruation. It is perhaps not amiss to say a few words about normal menstruation, so that we can better understand those conditions which constitute the abnormal functions.

First, what is menstruation?

Goffe defines it as a regular periodic experience through which every woman passes about every twenty-eight days. It is characterized by a bloody discharge from the vagina, and in a majority of the women, is attended by a feeling of languor and general discomfort.

The amount of discharge and its duration as well as the amount of discomfort vary in different women, and also from month to month in the same woman.

The menstrual life of woman first appears usually about the fourteenth year, and continues about to the forty-fifth year. The time of the first appearance and menopause are influenced by climate, race and environment. It begins earlier in warm climates than in temperate or frigid zones. Girls who lead lazy, luxurious lives, menstruate earlier than their humbler sisters. As a rule, those who menstruate early in life reach the menopause earlier.

All of these rules are subject to individual variations, which may be within the limit of health. Some women may menstruate every two weeks, while others may have intervals of five or six weeks. Any constant departure from the customary interval must be regarded as abnormal for that individual.

Investigations differ regarding the coincidence of ovulation and menstruation, and their relations to each other. Some are inclined to believe that ovulation occurs alternately in the two ovaries. It is known that congestion and pain occur in the ovaries alternately, just preceding menstruation, and disappear promptly thereafter, indicating a positive relation to time and cause in ovulation and menstruation. (Goffe.)

The beginning and close of the menstrual epoch mark the limits of the child-bearing period.

The beginning of the menstrual life is a critical period for the young girl, because it marks her entrance into womanhood and the child-bearing period. Previous to this time, she has developed along lines parallel to those of a boy. The efforts of nature have been confined to the evolution and building up of the framework, the muscles, and those organs designed for the maintenance of the individual. Until now the generative organs have lain dormant, but now a new life opens to the vision of the girl, she is conscious of something in her existence which was not present before. She becomes bashful toward her boy companions, and she is more modest and self conscious. There appear outward signs of the great changes taking place, and the generative organs begin to develop and mature. It seems to be a strange law of nature that a certain two or three years should be set aside for the development of the generative organs.

If the development is not accomplished at this time, the infantile organs of generation persist, the normal blood supply is not established, menstruation is not properly performed, and we have the beginning of that train of symptoms, so lucrative to the "Office Treatment" man and Mrs. Lydia Pinkham, and known as "female trouble." This continues until some extraneous impulse is given to these organs, to awaken them to new life. This may be marital relations, or it may be operative procedures.

At this time arises the question—what should be the life of the growing girl to establish for her a firm basis of health prior to puberty, and what should it be during the establishment of the menstrual life?

From infancy to puberty physically the girl and boy are on about an equal footing. The mode of life of the average boy evolves a man physically equal to the demands of after life. Why is it not, therefore, in a general way a proper standard for the girl? She should play the boys' games with the boys; she should learn to row and sail a boat; paddle a canoe, ride a horse, sitting astride as is now generally taught. Above all, let her learn to walk; to run; to jump; to climb and acquire that elasticity of gait which gives ease and grace of motion. No grace of motion is possible without strength, and the two are reciprocal. To carry out this regime, the dress of the girl must be simple, and so made as to enable her to compete with the boy in physical feats without restraint of clothing. Dress her simply, and let the material be coarse and strong

for play, and don't be afraid of a little dirt. The dress should never be tight as to restrain the free play of all the muscles, those of the abdomen and diaphragm as well as those of the arms and legs. Regular meals of good digestible food, and regular hours of sleep are most essential.

It was formerly believed that menstruation was a function peculiar to women. Later it was discovered that monkeys in captivity also menstruate. The rut of animals, as the dog, the horse, the cow and deer, is a function closely allied to menstruation.

Many theories have been advanced to explain the *raison d'être* of this function and its physiological importance, but Goffe gives a most beautiful theory to explain it. He says that menstruation is a frustrated attempt of nature to reproduce an individual of that species. An ovum is thrown out from the ovary, and gradually finds its way toward the uterus.

Nature begins at once its preparation for its reception. The nervous system becomes exalted to a high degree of functional activity. The blood supply to these parts is increased. The endometrium, which is the soil in which the ovum is to be implanted, becomes turgid, soft and velvety. Its epithelial cells swell and multiply, and every preparation is made to nourish the welcome guest and give it a home.

If perchance, this guest has been anointed with the baptism of spermatic fluid, she is ready to respond to this beautiful preparation, and partake of the good things that have been provided. Nature economizes her resources, nothing is lost, and everything accomplishes its end whereunto it has been sent. But if the baptism has been omitted, the guest is incompetent to receive the hospitality extended, and is therefore cast out. The preparations are all eliminated, and come away in the form of menstrual blood discharge.

The old Jewish law that forbade women to bathe during menstruation has not only established a custom among most of that nationality throughout the world, but has invoked the practice among all women of abstaining from the bath at that time. If there ever is a time during a woman's life when she needs a bath, it is when she is menstruating. Not only is there coming from her a highly organized vaginal discharge, that readily undergoes decomposition, and emits a disagreeable odor, but the skin and especially the sudoriferous glands of the axillae and the groin are working overtime. Unless removed by plenty of soap and hot water, this accumulation stagnates the ducts and glands, and

emits a disagreeable odor that makes the woman offensive to herself and also to her associates. Women recognize this fact, and to overcome it, many are wont to load themselves with perfumery. This is as false to true hygiene, as sprinkling a house with perfume when it demands disinfectants and germicides.

The same regimen of bathing should be continued as during the rest of the month, except that it should be done oftener and more thoroughly. The bath is the thing at this time. A hot tub bath is as beneficial now as any time and as free from danger. This same general rule applies to the entire regimen of life during this period. A woman leading a normal healthy life need not change her habits at the menstrual period.

A reasonable amount of outdoor exercise is important. Congestion of the pelvic organs, if allowed to continue, produces discomfort and pain. Relief is secured by equalizing the circulation throughout the system, diverting the blood to other parts by exercise. This exercise should be sufficiently violent and prolonged to keep the blood freely circulating and the extremities warm. The nervous system is the most important factor to be considered in this connection. Anything that tends to undue nervous strain, should be studiously avoided. School girls and school teachers must be made to understand that high pressure must be relaxed. And while mentioning school children and school teachers, I want to say a word about that crime against civilization—the average school house privy. Who of you does not feel disgusted and nauseated as he chances to enter one of these foul dens at the rear of the school house.

In winter, when the ground is covered with snow, the average child will delay defecation as long as possible to avoid exposure to the chilly air. You well know the results of such habits—constipation, auto-toxemia, piles, etc., etc. And what a shame it is to send a young girl, just entering puberty, and sensitive to all sudden changes of temperature into one of these filthy sheds to uncover her pelvis and sit down upon the cold seat. If she be menstruating, the effect can easily be imagined.

If some of our long-faced school directors would pay less attention to that awful crime, dancing in schools, and more attention to the cleanliness and healthfulness of the school privies and the conduct of young girls therein, I believe their chances of heaven would be correspondingly greater. Social obligations, so exacting in these strenuous times must recognize that woman owes

something to herself as the keeper of her own health, and the present or future mother of the race.

And now I want to mention a few of the most common anomalies of menstruation, and say a word regarding their treatment. These are scanty menstruation, vicarious menstruation, amenorrhoea and dysmenorrhoea. No time need be wasted defining the above conditions, but I do want to say a word regarding the treatment of these abnormal conditions. The treatment to be applied in any individual case depends upon the diagnosis, i. e., the cause.

I beg of you, do not put this innocent young thing upon the chair and humiliate her by first destroying the emblem of her virginity with the faithful speculum, and then after painting the cervix with some supposedly sure depletent, stuff her vagina full of cotton, and looking wise predict a cure. If you had a broken arm, you would not smear on some salve and send them away poorer by a few dollars. Certainly not, you would us the X-Ray, you would reduce the dislocation and splint it carefully. Then why should you first guess at the diagnosis, and then think that a displaced or undeveloped uterus would become normal from the use of a box of salve and a tampon?

Why are some men led to believe that an undeveloped tube or ovary will take on new life and growth from the packing of the vaginal canal with foul and greasy application, and a bunch of lamb's wool? The condition is not analogous to the vegetable kingdom where a little manure will cause sweet sprouts to come from mother earth to tickle the palate of mankind.

I am frank to say to you that it is my opinion that the average "office treatment" as presented to thousands of young girls is just as much larceny, as the picking of a pocket under other conditions.

Instead of the aforesaid "ointmentizing" and tamponading, now is the time for relaxation from nervous and mental strain, and the participation in as free outdoor life as can be attained. Instead of this, however, we find our girls bending over their books in an overcrowded school room, "adding fuel to the fire of antagonism of brain and indigestible foods, leaving the imprint of the unequal struggle upon the reproductive organs" or, perhaps she lays off a day to let her family doctor stuff in a fresh supply of ichthyol and cotton. With too poorly established sexual function and perfect disregard of menstrual work, this undeveloped woman leaves school to plunge into the social dissipa-

tions, followed by the assumption of wifely duties, and responsibilities toward her husband who can only see her pretty face and not her frail body." (Hale.)

It is clear then that prophylaxis is the proper treatment. The family physician must keep his eye on the growing girl, and counsel the parents in all that relates to her menstrual life. But who shall counsel the girl? The mother by all means is the one to tell the daughter the mysterious truths of self.

Every girl and every mother are laws unto themselves, and hence must originate their own method of disclosing these most vital truths.

If a girl has been unfortunate enough not to have had this supervision and care, or if in spite of it, she suffers from these abnormal conditions, the physical, mental and social habits of the patient must be investigated. Errors of refraction should be looked for. The bowels must be looked after and regularity secured. All mental strain must be prohibited and recreation prescribed. Social duties are to be relaxed, and the girl must be made cheerful by encouragement and kindness. I want to impress upon you that drugs are of little or no avail beyond stimulating the appetite and digestion, and that "office treatment" is of little avail, except to lacerate the genitalia, to break down the inherent modesty of the girl, and to awaken in her hitherto unknown sensations by the handling of the parts. The curative effort must be in the direction of securing surplus vitality and equilibrium of circulation. If the cause of the trouble is such as to preclude the efficacy of the foregoing treatment, or if nature is unable to sustain her part even with the help of these measures, it becomes necessary for us to resort to surgical procedures to relieve these sufferers..

In *vicarious menstruation* any local lesions should be carefully looked after and steps taken to eliminate them.

In *dysmenorrhoea* due to an undeveloped uterus with the usual unyielding and contracted cervix, dilatation (with or without curettment) and insertion of the Outerbridge dilator or Wiley drain will work wonders. The dilators, left in place for some weeks, not only dilate the cervix and allow a drainage of the uterine cavity, but by causing contractions of the uterine muscles upon them, they exercise these muscles and thereby strengthen them.

This is a procedure to be done by the general practitioner, but he must remember that the application of these instruments is a surgical operation and to do good instead of harm. must

be done under rigid aseptic conditions, and that the rest in bed is as important as the operation itself. The two go hand in hand. This is not an office procedure.

To keep a replaced uterus in position, the pessary is most useful. But do not expect the pessary to relieve dysmenorrhoea. It is the readjustment of anatomical relations that relieves the conditions. The pessary helps by keeping the uterus in place, after it has been put in proper position.

If caused by polypi, fibroid tumors, salpingitis or many other surgical conditions, then the treatment is certainly surgical. If a girl presents a fibroid tumor as the cause of her dysmenorrhoea, do not treat it and keep it under observation. Mayo says, "that tumors should not be 'treated' and kept under observation. They should be removed or left alone."

If amenorrhoea is due to lack of development, treat it as aforesaid.

If due to atresia or tumor formations, remove the cause by surgical measures.

And in conclusion I wish to again bring to your notice that

(1) Menstruation varies in different women and from month to month in the same women

(2) All rules are subject to individual variations.

(3) Growing girls should be brought up with the same freedom of play and exercise as boys.

(4) That bathing at the menstrual period is not harmful, but is beneficial and more necessary at this time than any other.

(5) Women should follow the same regimen of life at this time as during the rest of the month.

(6) Treatment to be applied in any individual case depends upon the diagnosis.

(7) The usual office treatments are presented to young women for the relief of the anomalies of menstruation is wrong and unjustifiable.

(8) Prophylaxis is the best treatment. When this fails, mechanical and surgical treatment is the best.

(9) Drugs do little good except to stimulate the appetite and digestion.

(10) The curative efforts must all be directed to the removal of the cause, and the production of surplus vitality and equilibrium of circulation.

Before closing, I wish to give due credit to Goffe's splendid article on menstruation in Bovee's New Gynecology, from which much of this essay has been bodily abstracted.

THE PHYSICIAN AND THE CHILD OF THE FUTURE.

ERMINIE H. SMALLWOOD, M. D.,
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[Read before the Ohio State Medical Association.]

This paper, a necessarily brief consideration of an important subject, is offered because of my belief in the widening of the physician's sphere.

I believe his place in the future will be all it has been in the past and something more; that as a student of causes he shall take his true position as teacher and leader of the people modifying causes.

Too long the medical profession has posed as having no interest in human affairs aside from a fever or a broken bone.

Much advice has been given in the past, discouraging any interests outside of professional duties. Such ideas have cramped its activities, and hampered its usefulness, often driving its members into an antagonism of each other for the paltry dollar. Such antagonism forces it from its high position of honor to one of contempt in the eyes of the people.

The organization of our profession is the first step in the right direction. Co-operation, concerted action, added to high aims and determined efforts will dispell these mis-interpretations and start it on the road to high achievements.

If our aim is a successful career, let us pause to ask what is success in the practice of medicine? Some one replies that it is securing a large practice and amassing money. Money. It is the *ignis fatuus* of the marsh that the doctor pursues until lost in the bogs of despair.

We should be glad, and not jealous, that a few of our number receive fees somewhat commensurate to their services, realizing as we do that no one is, or can be recompensed for the mental strain and anxiety of a physician's life.

No young person should be encouraged to enter the practice of medicine with the prospect of a fortune set before him.

I had occasion during illness at my home to call a barber to the residence. He charged fifty cents a shave for his services. At that time the doctors of our city were charging but a dollar a visit. Deducting expense for horse and medicines, left less than fifty cents, and that often unpaid.

If he loves the work enough to serve humanity for little pay and less thanks and adopts some sort of business methods, he can make a fair living, but if he contemplates entering this field

to make a *fortune*, he had better seek it placing bricks—instead of bones—in spreading mortar and not ointments.

What is success in the practice of medicine? To heal the sick, stamp out disease, mitigate suffering, comfort sorrowing humanity. This is a high aim and has ever been the purpose of our noble profession. For this the doctor has spent sleepless nights and anxious days; he has traveled weary miles and spent his own strength; freely he has given his own health and oftentimes his life. If the approval of his own conscience and the reward of heaven are success, his is success.

We trust that recompense, appreciation, praise, even monuments on earth, will also be given the doctor of the future.

But we ask, what is the highest success of the medical profession?

It is to use the knowledge in its possession for the benefit of mankind, to accomplish the most good possible; to influence government, to instruct the schools, the press, the pulpit, to map out a high ideal for the future American and assume the gigantic task of moulding a nation.

Because you are physicians, shall you be any the less citizens of a great country with many problems confronting it? Are you to have no thought for the suffering of the future, no interest as patriot physicians in the generations to come, the child of the future?

But it is said that our high profession must not be dragged into the mire of politics. True, but with clean hands and high purposes let the medical profession help to lift politics out of the mire into which the low-minded have dragged it. Is there no place in the legislative hall for men who are specialists in their knowledge of many things of vital importance to the nation's welfare? We are proud of the work accomplished by one of our profession in an advisory capacity and trust that it is but a harbinger of what medical men will attempt in the future. With special knowledge of the laws of heredity and degeneracy, our message to the American people should be, that it is important not merely that a new generation be born, but that it be born the best possible, morally, mentally and physically.

How often you are called into a home of sorrow where a heart-broken mother is bewailing the affliction of her child and reproaching the God above for sending disease and death to her offspring. You can but shake your head and piously remark that all these mysteries will be solved in heaven. Many of them can be solved

upon *earth* and it is the duty of the medical profession to solve them.

To be sure it seems cruel to tell the mother that her child should never have been born, but it is cruelty to withhold the knowledge of people ere they enter the state of matrimony that the diseases and degeneracy of the fathers and mothers are visited upon the children.

It is the duty of our profession to make it impossible for the criminal, vicious and seriously diseased to produce offspring to become a burden to the state and a menace to society.

Regulation of marriage should be the business of the state. The state has a claim upon the individual prior to that of the mother who gave him birth and upon the mother devolves the final duty to care for him when all other resources fail, shall the state have nothing to say as to his ancestry or his condition at birth?

It rests with medical science to instruct the state. Take these questions from silly sentimentalists, misinformed novelists and emotional actresses that parade their unhealthy ideas before young and old alike, and solve them in the right way. Let children be taught, but by the right persons.

We must teach that ignorance is not innocence. To send our young people forth all unmindful of the dangers in their pathway is not purity, but criminal negligence.

A short time ago the newspapers announced that there was a leper in our country traveling to some place of refuge and immediately the whole country was alarmed. He was expelled from trains and refused admittance anywhere. Men were absurdly frantic in their efforts to banish him.

In contrast to this, think of the moral lepers, with diseases more blighting than leprosy, that are admitted to parlors where they clasp hands with purity, that debauch holy wedlock with their lecherous kiss!

Who is to protest against this if not the medical profession? Has it not been lax in its treatment of these conditions? Have not sexual transgressions been passed over with a smile as a necessary folly of youth? We are thankful for brave words and individual protests, but in as far as the (medical) profession has failed to warn youth and teach the people as far as it has assumed the attitude of condoning these indiscretions, just so far is it guilty of the results in the suffering and abdominal surgery from these causes among our women and the diseased and deformed children they weep over.

We should be proud as a nation of a president that has resurrected an edict so old it was in danger of being forgotten and sent a thundering echo from Mt. Sinai, reverberating over our land, "Thou shalt not steal." Oh, for a Moses to thus lead the medical profession forth from the mount where God's anger still flashes as in the days of old, to proclaim with the same prophetic doom, "Thou shalt not commit adultery."

It seems that more consideration is given to the improvement of horses and hogs than to the study of eugenics. It is said that you can't do anything with young people when they take it into their heads to marry. We don't begin in time. What is the medical profession doing to guide youth regarding matrimony? No doubt the parents should guide them. But who are instructing the parents? You doubtless think that you cannot deal with love in any cold, scientific manner. We are not denouncing love, but we are appalled today by the mistaken diagnosis of this "malady," that is being exposed daily in our divorce courts.

What is done to prevent young people from rushing precipitately into an alliance for whose responsibilities they are wholly unprepared? People are allowed to marry when immature and unfit to bear children. A study of this subject reveals the fact that most of the *great* people of the world, instead of being the *first* children of parents were born when they had reached a mature age. Will you claim this as an argument for large families? Is it not rather an argument for later marriages?

Will you say that such restriction would entail unhappiness upon our young people? Would it not rather solve the divorce problem, unhappiness after marriage? A few more years for the young man to prepare a home and the young woman to learn to care for a home, and childhood would not so often be stranded on the shores of "no home."

Should physicians not insist upon the proper teaching of boys and girls in sexual matters and proper legislation to enforce such teaching? If the boy was fully aware that for one act of sexual transgression, he is likely to contract a disease that will curse not only his own life, but that of his children's children, nay if the laws were such that he could have no part in the procreation of a future generation if such diseases be contracted, would it not materially assist in the control of turbulent passions?

The very suggestion of unsexing men is decry'd as something terrible. It is nothing that the fairest and best of women are being unsexed by

and because of these diseases by hundreds and thousands?

It is stated that the women of today do not want to bear children. That is not true in any material sense. I do not think that the American woman of today fancies becoming a generating machine, a mere incubator to breed children for drunken fathers, or with no regard for their welfare as to whether they can be even fed or clothed, to say nothing of education.

The instinct of motherhood is as strong in the human heart today as it has ever been. The plea for higher education in literature, art or politics appeals more strongly to the woman of today, that she may be fitted to be a more capable wife and mother, than for any other reason. The women's clubs of today will make better home keepers tomorrow—lift them up above petty gossip and frivolous fashion to nobler thoughts and purposes.

Guard marriage not only by law, but by placing right ideals in the minds of youth; cause them to think less about the curl of the hair and the color of the eyes and more about the drunkenness of parents or the insanity of grandparents; teach the laws of heredity; exterminate degeneracy, criminality and transmissible disease with the germ of its inception, and the birth of children would become an honor and a privilege.

Marriage for companionship could still be allowable; without comradeship there is no true marriage.

My point is that regulation of the birth of children is the rightful business of the state. My contention that if the young man and woman after being enlightened, choose the life of the bestial and degraded, they should wallow in the mire with those of their kind, but there should be an unsurmountable wall erected between them and purity, that the children of the future be not contaminated.

These subjects are certainly worthy your earnest consideration. I would rather save one pure girl from the fate of many women, than to save her life after her heart is broken.

I would rather assist in the birth of one child free from hereditary taints, than assist in attempts to straighten out the limbs and minds of a multitude, bent under the load of ancestral sins. Nature is working for the survival of the fittest; shall we not come to her aid that many of the *fit* be not sacrificed in the extermination of the unfit?

In the interests of the child of the future, should the medical profession not make a study of the race problems? An eminent college presi-

dent advocates the amalgamation of the races, believes that the future American will be the outcome of the mixture of all the races, that the good qualities of each will enter into this complex being. On the other hand, a sociologist who has given much time and study to this subject, with an interest free from rancor and prejudice, states that such a combination is a detriment to each race. Who shall decide between them?

If it be for the best interest of the future child that all racial lines be eradicated, then let it be proclaimed and all barriers removed, but if it is not favorable to the highest development of either, then let the strong race establish a protectorate over the child races, giving them every possible opportunity for self development, each cultivating a pride in race purity and discouraging intermarriage. Medical science should investigate and give unprejudiced advice on this subject.

We are interested in the *environment* of the child as well as in its ancestors. School work, sanitation, physical examination of school children, child labor, are questions being rightly agitated today. The feeding of school children is another step forward and meets the immediate needs of the situation until juvenile and other laws render its impossible in this country for the child to go hungry.

Remove the atmosphere of fear that surrounds the child. Education is unfolding and development—not repression and nervous depression. We are not criticising proper discipline and training, of which there is a sorry lack today. Fear of the dark, fear of hobgoblins, are relics of the dark ages. I had personal knowledge of a child who had been threatened with the Doctor as “ready to cut off his ears, etc.” He was taken seriously ill and was frantic at the kind approaches of the physician, and died largely through fear inculcated by the parents.

A child should not know anything about nerves.

Fights is simply a lack of self-control. Surely we have enough of both nervousness and lack of bodily control without suggesting it to children.

Fear of death should not be discussed, fear in prayer should not be taught.

Our childhood's prayer, dear because of its associations, contains a suggestion of fear—“If I should die before I wake.”

Contrast this with the Saviour's prayer and suggestion of *trust* and *security*—“Our Father;” *reverence*, “Hallowed be Thy Name;” *daily care*; “Give us our bread;” *forgiveness*; Help; “Lead

not into temptation;” *work*, that; “Thy will be done on earth;” *infinite power*—“Thine the glory.”

Put it in child language if you will:

I thank Thee, Our Father,
For care through this day.
If I have done wrong,
Forgive me, I pray.
Bless those that I love
And help me to be
Kind, loving and useful,
Dear Savior, like Thee.

Is this a trifling matter to mention to a scientific body? Do not these things help to develop ideals and character? Surely we cannot rise higher than the things we pray for, and a child's prayer should be something more than a fire-escape ladder erected every night before going to sleep.

I believe that the medical profession of tomorrow with the best interests of the child at heart will be total abstainers from tobacco and alcoholic beverages. If it is true that these drugs hinder the unfolding of the mind and body, medical science cannot be true to itself and stand for anything less than the highest development of the race. It does not represent degeneracy. If it is not favorable to the highest type for the mothers to use these things, neither is it for the fathers.

I believe the doctor of the future will be better paid because of the saloon and its twin brother, the nostrum, leaders of the gang of banditti that lie ever in wait for the meagre pay, that has gagged the press and handcuffed the legislature, will be driven from the haunts of civilization. He will be better appreciated because he will have more appreciation of his fellow labore-rs. They will be noted as much for loyalty to each other as for loyalty to duty. We are not *tradesmen*, striving with selfish purposes against each other, but *priests* that stand to minister at the portals of time and eternity where the Unseen waits within the shadows, keeping watch over the heroic conflict with death.

Every member will be worthy of respect because the standard will be held so high that there will be no place for the trickster, the quack, the traitor, the abortionist, the evil-minded within its ranks, and instead of spreading themselves on the outside “like a green bay tree,” the vampires that are now feeding upon the sufferings of an injured and gullible public, will be exterminated root and branch.

Do you think this is a fairy story, that such a condition would be too much like heaven to be practicable on earth?

Are these subjects to be delegated to the pedagogues and the clergy? Who are to inform them?

The teacher's influence begins with the child at school age, the clergyman's perhaps when he places his hands upon his head in holy baptism. The physician deals with the child in embryo. Should not his best efforts be exerted two generations before the child is conceived?

If we are true followers of the Great Physician, it is our mission to help bring Heaven to Earth. Shall we not give the interpretation to His "Suffer the little children to come unto me," to suffer them to come into existence free from the burden of criminal and diseased ancestry with its cramping, blighting effect? Bring to them the earthly heaven of hope and opportunity.

Have we any higher duty than that of guardians of the future child of this great Republic?

BOOK REVIEWS

MODERN MEDICINE—ITS THEORY AND PRACTICE.

In original contributions by American and foreign authors. Edited by William Osler, M. D., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal. Assisted by Thomas McCrea, M. D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of about 900 pages each, illustrated. Volume V, Diseases of the Alimentary Tract. Just ready. Price per volume, cloth, \$6.00, net; leather, \$7.00, net; half morocco, \$7.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

The fifth volume of "Osler's Modern Medicine" is probably the most complete and up to date single volume on Diseases of the Digestive System in the English language.

No work could be more exhaustive or more thorough in dealing with this subject. Its arrangement and classification, as well as the systematic manner with which all subjects are presented, are all that could be desired.

The introductory discussion on diseases of the digestive apparatus should be carefully read by every medical practitioner since it presents material in a concise form which is difficult to find elsewhere. The chapter on Functional Diseases of the Stomach is especially good, presenting the finer points of diagnosis in most satisfactory manner.

The discussion of organic disease of the stomach, especially of cancer and ulcer, is most complete and well arranged.

Diseases of the Intestines, Chapter VI by Stengel is one of the most valuable portions of the book and covers the subject as completely as could be desired.

Chapter IX deals with the Diseases of the Pancreas and explains thoroughly all of the newer tests and methods of diagnosis in such conditions. The sections on Fat Necrosis and the cause of Pancreatitis are deserving of special mention.

The last chapter presents a comprehensive discussion of Diseases of the Liver, Gall Bladder and Biliary Ducts by Kelley.

The volume may justly be ranked as the equal if not the superior of the preceding volumes of Modern Medicine.

DISEASES OF THE DIGESTIVE CANAL (Oesophagus Stomach Intestines)—By Dr. Paul Cohnheim, Specialist in Diseases of the Stomach and Intestines in Berlin. From the Second German Edition. Edited and translated by Dudley Fulton, M. D., Lecturer on Medicine, University of Southern California, Los Angeles, J. B. Lippincott Company, Philadelphia and London.

A work apparently based almost entirely upon the author's clinical experience, no attempt being made to review the literature upon the subject and no space devoted to the discussion of theories.

In not a few instances does the author dissent from the opinions of other authorities upon the subjects under consideration.

Very great importance is placed upon the history of a case of gastric or intestinal disease, and the author is successful in convincing the reader that his views in this respect are correct. The contention that the proper interpretation of subjective symptoms is of equal or even greater value than many laboratory methods is well worthy of consideration.

The various diseases of the digestive canal are discussed briefly but in a most practical manner.

An appendix contains a very good outline of dietetic treatment, also an outline of balneotherapy.

The work should be a valuable aid to the general practitioner in dealing with a class of cases which are frequently troublesome.

A MANUAL OF CLINICAL DIAGNOSIS. By James Campbell Todd, M. D., Associate Professor of Pathology, Denver and Gross College of Medicine, Denver. 12 mo. of 319 pages with 131 text-illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company, 1908. Flexible leather, \$2.00 net.

This is an extremely practical little work and presents in a clear and yet a condensed form the

(Continued on page 169)

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N. P. OGLESBY, M. D., Columbus, Advertising Manager

MEDICAL LIBRARIES.

The attention of our readers is earnestly directed to the address of our colleague, W. J. Conklin, of Dayton, before the Ohio Library Association, and published in the February 13th number of the Journal of the A. M. A., as a very pertinent discussion of a question which is not receiving sufficient attention from the medical profession. The writer shows how wretchedly off the various communities of our state are for medical libraries; that "there is not a public library in the state which has a live, growing medical department, nor is there in the state an independent medical library supported wholly or in part out of the general tax fund." He compares this with the law libraries which have been so lavishly supplied by the state (with the help it may be suspected, of lawyer members of the legislature). He says "there are in Ohio about sixty special law libraries organized under the legislative act of 1872. This statute, which has been favorably amended at various times, authorizes the commissioners of any county to contract with a library association to furnish book facilities for the judges and county officials. Under this law the commissioners of my own county

(Montgomery), out of the general tax levy, have not only furnished and equipped elegant and commodious rooms in which to house the books, but provide heat, light, and the salary of the librarian, amounting to over \$2,500 per annum." May this statement not be duplicated in many other counties? While primarily for the benefit of the county officials, these libraries are open to all the lawyers of the community with perhaps the payment of a nominal membership fee in some instances. And yet what a storm would be aroused if the health officers and health boards in our various cities and towns should demand a tenth of the sum allowed by the local law libraries for a medical library!

Dr. Conklin gives a very conservative estimate of the gratuitous money value of the services furnished in every town and county by the medical profession and then modestly thinks that in recognition of such services we are entitled to about one per cent. of that amount to be expended for medical libraries. That our profession is so entitled to this and even greater recognition goes without saying, but we do not believe that we will ever receive from the public any such return in this way. We have ac-

cepted too long and too meekly the role of the step-child; it will be futile to draw attention to what we have done for the good of the people and then stand around in a receptive attitude.

In talking over this very matter with a member of the Board of Trustees of the Columbus Library, the writer asked why there were so many reference works on art, architecture, chemistry, law and the like, and so few on medicine. He replied that there was a demand for the former. That the doctors seemed to know that there were no works of any value in the library on their subject, so while occasional requests were made, the seekers soon became discouraged as no effort was made to supply their wants. We asked him further if considering the various specialties above mentioned, and the number and social positions of the local physicians, did he think they were receiving justice as taxpayers in the distributions of the library funds? He confessed that it did not appear so—and that was the end of it. The only remedy is for the medical profession in every locality “to make a noise like” *vox populi*, and demand recognition, not as thanks or because we are altruistic and public benefactors, but because we are *voters* and *taxpayers*!

Elect members of the city council and urge the appointment of at least one physician on the board of trustees of the local libraries. The only way to get things from the body politic is to be a politic body! In this as in other things the organized medical profession can make itself felt!

OHIO COMES TO THE FRONT IN VITAL STATISTICS.

The new vital statistics law is already attracting the favorable attention of other states, and Ohio is changing from its past position of a laggard in this important work to one well up in the lead, for under the operation of the present law the returns of births and deaths for Ohio will

soon take rank as among the best in the Union.

Dr. Cressy L. Wilbur, chief statistician of the Bureau of the Census, recently paid a visit to the office of the state registrar, F. L. Watkins, at Columbus, and expressed himself as greatly pleased at the evidences of efficiency in the administration of the law and of the co-operation of the people of the state and the medical profession in its practical operation.

The present law is in strict conformity to the model bill for the registration of vital statistics recommended by the American Medical Association, the American Public Health Association, the Committee of the American Bar Association, and endorsed by the Bureau of the Census.

Dr. Wilbur, in company with J. N. McCormack of Kentucky, the national organizer of the American Medical Association, has recently addressed joint sessions of the legislatures of Missouri and Kansas in advocacy of the passage of such a law, and held up Ohio as the latest state in which an efficient system for the collection of vital statistics has been established under this system.

The requirements under this law are simple, the items required in the certificates of birth and death are only such as are compulsory in all of the registration states and necessary for the annual compilation made by the Bureau of the Census. It is hoped that physicians will cordially assist in the enforcement of the law throughout the state, and through the county societies aid in its effective administration.

It is necessarily true that in the requirement of the prompt registration of births and deaths with its personal and statistical particulars essential for an adequate record, some members of the profession who are not familiar with such records may find some points of minor objection, but the great advantage of uniform

and complete data, should outweigh any minor criticism, and the profession as a whole should support the uniform law recommended by the Bureau of Legislation of the American Medical Association, and help in its administration by the State Registrar.

EDITORIAL NOTES

THE OPTOMETRY BILL.

The Optometry bill had a public hearing before the Senate Committee on Medical Colleges, February 16. Both sides were well represented. At this writing the bill has not advanced out of committee. It is quite certain that the measure will not be enacted at this session of the Legislature.

NOTICE.

EYE, EAR, NOSE AND THROAT SECTION.

Wednesday afternoon, May 5, and Thursday forenoon, May 6, will be devoted to the papers assigned to the program of this section.

Wednesday evening Frank Allport, of Chicago, will give an illustrated address on the "Radical Mastoid with Sinus Thrombosis Complications," and Thursday afternoon he will hold an Ear Clinic at the City Hospital.

A portion of the time allotted the program will be given to exhibits.

Any one wishing to exhibit a case, either to demonstrate a pathological condition or a result or a method will be welcome.

We would also like to include in this portion of the program, exhibits of radiograms, stereopticon demonstrations, microscopic exhibits, photographs and new instruments.

Anyone wishing to contribute to the program through the medium of exhibits, please send full list, etc., to the Secretary.

We will probably be able to give five minutes to those requiring explanation.

WADE THRASHER, Sec'y-Treas.

For diagnosis and early treatment the following bismuth paste is recommended: Bismuth subnitrate (arsenic free), one ounce; vaseline, two ounces. Mix while boiling.

For late treatment the following formula should be used: Bismuth subnitrate, one ounce; paraffin: soft wax —aa. one dram; vaseline, two ounces. Mix while boiling.

PROGRAM FOR POST-GRADUATE STUDY.

It has been requested that the programs for post-graduate study, arranged for county societies, be published in the JOURNAL.

THIRD MONTH.

DISEASES DUE TO ANIMAL PARASITES.

FIRST WEEKLY MEETING.

1. DISEASES DUE TO PROTOZOA.

A. MALARIAL FEVERS.

MOSQUITOES IN MALARIAL FEVERS.

Genus *Anopheles*.—Differentiate from *stegomyia* and *Culex*: colors, palpi, proboscis, resting position. Time of biting, weak fliers, hibernation, distribution in United States. Different species: *a. maculipennis*, *a. punctipennis*, *a. crucians*, *a. argyritarsis*, etc. Life history: Eggs, number and location, hatch in 3 or 4 days; larva, shape, structure, feeding, stage 16 to 20 days; pupal stage, 3 to 10 days; effect of cold weather. Destruction of mosquitoes, abolish breeding places, gutters, barrels, pools, marshes, etc., drainage, oiling ponds, stocking ponds with fish.

THE MALARIAL PARASITES.

Historical account, work of American observers.

Classification (Schaundinn).—Order, Protozoa, sub-order, Hemosporidia; varieties, *Plasmodium vivax* (tertian), *Plasmodium malarie* (quartan), *Plasmodium immaculatum*, *præcox* or *falciparum* (*æstivo-autumnal* parasite).

I. The Parasite in Man.—(a) *Plasmodium vivax* (tertian fever). Form, size, shape, changes during cycle, amœboid movements, pigment, segmentation. (b) *Plasmodium malarie* (quartan fever). Differs from *Plasmodium vivax*. (c) *Plasmodium falciparum* (*æstivo-autumnal* fever). Differentiate from each of others.

II. The Parasite within the Body of the Mosquito.—Gametocytes from man, flagellation and fecundation in stomach of mosquito, in muscular coat develops zygotes, which rupture freeing sporozooids, these through salivary glands into man when bitten; sporozooids develop parasites in blood of man; sexual and asexual cycles; duration of cycle 14 days.

Contributing Etiology.—Distribution in the United States. Seasons and climate, time of day, altitude, soil, rain and moisture, race, age and sex. CLINICAL FORMS OF MALARIAL FEVERS.

I. Regularly Intermittent Fevers.—(a) Tertian fever; prodromal symptoms, cold stage, hot stage, sweating stage. Recurrence. Double tertian infection, quotidian paroxysms. (b) Quartan fever; symptoms of each stage. Infection with two or three groups.

II. Irregular, Remittent or Continued Fevers.—(a) *Æstivo-autumnal* fever; variations in onset, types of fever, facies, tongue, spleen, jaundice, blood examination. (b) Pernicious Malarial Fevers. (1) Comatose form; sudden onset, chill, fever, mental symptoms, recurrence of chill. (2) Algid form; gastric symptoms, prostration, pulse, temperature, diarrhea, urine, course and terminations. (3) Hemorrhagic forms, hemoglobinuric

fever, black-water fever, hemoglobinuria; distribution in United States, frequency, parasites present, effect of quinin.

III. Malarial Cachexia.—Follows repeated attacks; anemia, dyspnea on exertion, edema, hemorrhages; variable temperature, enlarged spleen. Course and terminations.

SECOND WEEKLY MEETING.

I. DISEASES DUE TO PROTOZOA (*Continued*).

A. MALARIAL FEVERS (*Continued*).

DIAGNOSIS AND TREATMENT OF MALARIAL FEVERS.

Diagnosis.—Technic of blood examination. Clinical diagnosis. Therapeutic test.

Treatment.—Prophylaxis, destruction of mosquito, isolation of patient, use of quinin. Medicinal treatment: quinin, effect on malarial parasite, preparations and doses, time of administration, methods of administration. Treatment of malarial cachexia, physiological and therapeutic action of each drug.

B. AMEBIC DYSENTERY.

Etiology.—*Amœba dysenteriae*, size, ectosarc, endosarc, nucleus, vacuoles; recognition in tissues, pus, sputum, feces; culture growth, symbiosis. History, occurrence in the United States.

Symptoms.—(1) Acute amebic dysentery: sudden onset, pain, tenesmus, bloody, mucous discharges, pulse and temperature. Course and terminations. (2) Chronic amebic dysentery: gradual onset or follows acute attack, alternating constipation and diarrhea, general symptoms.

Complications.—Hepatic abscess, hepato-pulmonary abscess, hemorrhage, perforation and peritonitis.

C. TRYPANOSMIASIS.

Etiology.—Trypanosome, occurrence in animals, varieties, transmission by tsetse fly, occurrence in human. Symptoms. Latent period, gradual onset, trypanosome fever, emaciation, loss of strength, enlarged glands and spleen, edema of feet. Association of trypanosomes with sleeping sickness.

D. TROPICAL SPLENOMEGALY.

Parasite, description, occurrence in body, distribution of disease.

2. DISEASES DUE TO CESTODES.

A. INTESTINAL CESTODESS TAPEWORMS.

1. *Tænia solium*, pork tapeworm. Length, head, neck, proglottides, ova, hooked embryos, cysticerci. "Measled" pork. 2. *Tænia mediocanellata* or *saginata*, beef tapeworm. Length, head, segments, ova, cysticerci. "Measled" beef. 3. *Bothriocephalus latus*. Diagnosis of intestinal cestodes. Treatment.

B. VISCERAL CESTODES.

1. *Cysticercus cellulosæ*. Due to ingestion of ova, or in subject of *tænia solium*; location and number of larvæ determine symptoms: 1, general; 2, cerebrospinal; 3, ocular. Difficulty of diagnosis.

2. Echinococcus Disease. Larvæ of *tænia echinococcus* of dog, found in hog, ox, sheep and horse. Development; ingestion of embryo, digestion of shell, burrowing of embryo into peritoneal cavity, muscles, portal or systemic vessels; at des-

tination embryo forms cysts, parent, daughter, etc.; differs from ovum and larva of *tænia solium*. Contents of cysts, changes in cyst. Distribution in body: (a) *Ecchinococcus* of Liver. Large or small cysts, in right or left lobe. Symptoms and physical signs. Suppuration of cyst. Perforation. (b) *Ecchinococcus* of Respiratory System. Frequency. *Ecchinococcus* of pleura, of lung; symptoms and physical signs of each. (c) *Ecchinococcus* of Kidneys. (d) *Ecchinococcus* of Nervous System. (e) Multilocular *Ecchinococcus*.

THIRD WEEKLY MEETING.

3. DISEASES DUE TO PARASITIC INFUSORIA.

Trichomonas vaginalis, *trichomonas* (cercomonas) *hominis*, *lamblia intestinalis*, *balantidium coli*; size, pathogeny, occurrence in body, of each.

4. DISEASES DUE TO FLUKES.

A. PULMONARY DISTOMIASIS.—Parasite, distribution, symptoms.

B. HEPATIC DISTOMIASIS.—Species found, distribution, occurrence in animals, symptoms.

C. INTESTINAL DISTOMIASIS.

D. HAEMIC DISTOMIASIS; *BILHARZIOSIS*.—Parasite, symptoms.

5. DISEASES CAUSED BY NEMATODES.

A. ASCARIASIS.

Ascaris lumbricoides: shape, size, length, ova, site in intestine, number, migrations. Symptoms and treatment

B. TRICHINIASIS.

Trichina spiralis; (a) adult or intestinal form, (b) larva or muscle trichina; shape, size, frequency, epidemics, distribution in United States, occurrence in animals, hogs, etc. Development; ingestion of trichina in flesh, digestion of capsule, migration to small intestine, brood of embryos in 7 to 9 days, direct migration and by lymph and blood stream, penetration of muscle with interstitial myositis, development of capsule at about six weeks. Calcification of capsule and worm, vitality of trichina. Presence in stools. Diagnosis, gastrointestinal symptoms, epidemic form, worms in stools, presence of eosinophiles, muscular pain and tenderness, edema about eyes.

C. ONYURIASIS.

Oxyuris vermicularis: Frequency, distribution, size, shape, source of infection. Symptoms and treatment.

FOURTH WEEKLY MEETING.

5. DISEASES CAUSED BY NEMATODES (*Continued*).

D. ANKYLOSTOMIASIS.

Uncinariasis; Hookworm Disease; Miner's Anemia. Incidence, distribution in United States.

Parasite.—(a) Old-world *ankylostoma duodenale*, (b) new-world *uncinaria Americana*. Size and shape of male and female. Mouth, teeth and esophagus. Eggs, size, in segmentation. Entrance of embryos into body. Life of worm in intestine.

Symptoms.—Gastrointestinal symptoms, anemia, lack of expression, "Florida complexion," enlarged liver and spleen, potbelly, edema of feet,

cardiovascular symptoms. Blood examination. Ova in stools.

E. FILARIASIS.

Filaria bancrofti, *F. diurna*, *F. perstans*. *Filaria bancrofti*, size, shape, ova, intermediate host. Distribution in the United States. Microscopic diagnosis, presence at night, also found in lymph channels. Symptoms due to blocking of lymph channels: hematochyluria, lymph-scrotum.

F. DRACONTIASIS: GUINEA-WORM DISEASE.

Dracunculus medinensis, distribution in United States, shape, size, entrance to body, development, localization.

G. OTHER NEMATODES.

Filariae: *F. labialis*, *F. hominis oris* and *F. bronchialis*. *Trichocephalus dispar*; whip-worm, distribution, description. *Strongyloides intestinalis*.

6. PARASITIC ARACHNIDA AND TICKS.

A. PENTASTOMES: *Lingatula rhinaria*, and *Porocephalus constrictus*.

B. DEMODEX FOLLICULORUM.

C. SARCOPTES SCABIEI (Itch insect). Diagnosis and treatment.

D. LEPTUS AUTUMNALIS (Harvest bug).

E. IXODIASIS (Tick fever).

7. PARASITIC INSECTS.

A. PEDICULI. (1) *Pediculus capitis*, (2) *P. corporis*, (3) *P. pubis*.

B. CIMEX LECTULARIUS.

C. PULEX IRRITANS.

8. PARASITIC FLIES.

MYIASIS: Gastrointestinal, cutaneous, nasal, etc.

MONTHLY MEETING.

The Diagnosis and Treatment of Ankylostomiasis.

Microscopic Diagnosis of the Different Malarial Fevers.

The Disease Due to Parasites Entering the Body Through the Digestive Tract.

REFERENCE BOOKS FOR THE THIRD MONTH.

Osler: Practice of Medicine.

Osler's Modern Medicine. Vol. I.

Braun: The Animal Parasites of Man.

Langfeld: Infectious and Parasitic Diseases.

Clarke: Protozoa and Disease.

Mott: Sleeping Sickness.

MEDICAL ECONOMICS

Medical organization is identical with public health interests.

The medical standards mean the public welfare; they secure protection of the people against misrepresentation of medical facts.

The doctor should not neglect the fact that while he is examining his patient, the patient is examining the doctor and is likely to reach a diagnosis in advance of him.

The old-time doctor who could swear at his patients and get drunk at pleasure, with impunity, has gone the way of pioneer life. The people of to-day demand gentlemanly conduct added to medical ability.

Many a doctor's fee is lost because a statement of account is not ready to meet the patient's willingness to pay at the time when his ability and gratitude prompt him to do so.

Success in medical practice consists of (1) medical attainments and a good paying clientele and (2) in advancing the interests of the profession through both scientific contributions and other organization efforts, on the side of medical economics.

The value of medical training depends not so much upon a recollection of the language of

teacher or text-book, as upon mental pictures of the facts. Mental concepts and not word formation hold in memory the ideas and facts easily reduced to practice. Hence the superiority of clinical and laboratory instruction over the didactic.

Any one interesting himself in medical legislation will be surprised at the magnitude and importance of the work. It is an index to medical progress and an essential factor in medical education. It is warp and woof of public sanitation. It concerns alike the public and the profession.

How much success attends the appearance of the doctor as relates to personal habits, condition of clothing and cleanliness is estimated from the discussion these things receive in social circles. In these days of septic infection and chemical cleanliness, thinking people observe critically the need of nail brushes and laundry. Dirty or shabby clothing, soiled linen and other evidences of personal neglect compete with ignorance to defeat success in practice.

THE DEPUTY STATE HEALTH OFFICER.

The Deputy State Health Officer bill has been declared unconstitutional by our legal

adviser, the Hon. Samuel H. West, for the reason that it provides a county officer by the state, in the service and pay of the county, without a corresponding authority to elect such officer.

The short session of the Legislature gave attention to "Necessary Legislation" only. This makes it quite impossible to recast measures in time for consideration at this session. This bill had the merit of removing political influence from public health administration. This improvement may be compassed in each county through the efforts of physicians, directing attention of local authorities to the public policy of improved sanitary organization. The county health office idea should find expression in some form of legislation.

DIVISION OF FEES.

The relation of surgeon to physician has undergone changes from the date of internal surgery and internal medicine. The family physician has more responsibility and a higher duty to perform toward his surgical cases than ever before. A failure to recognize the necessity of surgical interference until too late illustrates the importance of his attitude toward surgical cases. In certain cases it is demanded, in order to overcome diagnostic difficulties, to make special study and do laboratory work. After diagnosis and recommendation of surgery, other attentions are made necessary from the nature of the case or by the request of the patient, including a trip to the hospital and attendance during and after operation. This service shares the responsibility of the operation and contributes to successful conditions. The patient, however, fails to appreciate this service and time loss. The special interest of the physician, the patient may infer, is its own award.

At bottom, these are the causes to participate and perpetuate a breach of ethics in which all concerned are implicated. The accustomed fee here is not satisfactory nor just. This fact has attempted to readjustment of fees between surgeon and physician on the commission plan. This barter and sale method common to commerce, is unethical in medicine. The only commendation in this standing-offer plan is that it recognizes the claim of the physician. Since the patient does not know of the transaction, it is reprehensible. Putting it mildly it is unethical.

This question should be settled in open court

in a manner to satisfy both ethics and honor. In many cases the physician is satisfied to collect fees from the patient. In other cases the surgeon should satisfy the claims of the physician for extra service *pro re nata* by rendering a bill with the statement that the amount named includes pay for the services rendered by the physician.

Millian gives three objective clinical signs which he says are pathognomic of erysipelas: (1) the pronounced lesions are always situated at a spot some distance from the starting point, usually on the periphery of the patch; (2) all inflammatory processes other than erysipelas stop short of the ear; (3) exquisite tenderness when direct pressure is exerted upon the erysipelatous spot.

Late symptoms are no more characteristic of any disorder than early ones, and their importance as signals for early therapeutic aid is relatively insignificant. Late symptoms are too often the heralds of death; inaugural symptoms may be the cry for timely surgical interference.—Moynihan.

It is extremely difficult to make a positive diagnosis of acute pancreatitis; it differs in no way from several violent acute conditions, like perforation of the gall bladder, affections of the stomach.—Ochsner.

Deaver emphasizes the importance of vesical irribility as the early diagnostic symptom of renal tuberculosis.

The spirochaeta pallida, when obtainable, is pathognomic of lues.

The best point for entering the maxillary antrum is about one inch from the edge of the nostril, below the inferior turbinate. (Ex.)

When we find a urine which reacts to Trommer's or Fehling's tests slowly, and does not react to the fermentation test, we should suspect pentose, and apply the Orcin test.

Lymphocytosis is the rule in exophthalmic goiter; there is a reduction of polynuclear leucocytes, as much as 50 per cent., and a marked increase of the small mononuclear leucocytes.—Caro.

STATE BOARD NEWS

The next regular meeting of the State Board occurs in Columbus, April 6, 1909.

VIAVI HEALER ARRAIGNED.

J. Ida Allen, formerly of Trimble, Ohio, learning that affidavits were to be filed against her, moved her headquarters to McConnellsville where she has been operating since November, 1908. Being displeased with the receptions accorded her by the physicians of McConnellsville she made bold to call upon them, and in one case it is reported she threatened suit for slander if the physicians did not cease their condemnation of her methods.

Affidavits charging illegal practice was filed before Judge McGonagle on February 22.

ANNA FLOREIN IN TROUBLE.

Anna Florein was an applicant for certificate in 1896, but was refused on the ground of immorality. She maintains a place and office in Cincinnati, on the windows of which appears "X-Ray Dr. Anna Florein," Dr. A. F. Flowers."

Criminal charges have recently been filed against her.

L. O. BLACK PLEADS GUILTY.

L. O. Black, of Dayton, charged with illegal practice of medicine, was arraigned before Judge Long of Police Court on January 28, pleaded guilty, and was fined \$25.00 and costs and sentenced to six months in the work house. The work-house sentence was suspended on condition that Black not attempt to practice in Ohio until he had obtained a certificate from the Medical Board.

COTTON DOCTOR BOUND OVER.

Frank Heuer, of Cincinnati, dubbed by his attorney as the "Human Battery," has the distinction of being the only one in the world having the power to cure by magnetism. He does not understand how he is able to accomplish these cures, but for the past sixteen years he has been curing all diseases by "passes." First he passes his hands over the victim's eyes and then over the afflicted ana. He then cuts several strips of cotton eight or ten inches long and four or five inches wide, passes his hands over these and directs the individual to apply this magnetized product to the affected part. It costs one dollar to get the cotton, and cures for cancer, epilepsy,

consumption and pains of all sorts are recorded. He was bound over to the grand jury on February 26 by Justice Hiram Botsinger, of Cincinnati.

BLESSED WATER.

Edwin P. Fehr cures his victims as follows: He personally pumps a quart of water from the well—it may be his well or the well at the home of the person treated. He also pumps a quart of water from the cistern. The victim is directed to dilute the well water to one gallon and the cistern water to two gallons. The former is used for drinking purposes, the latter is warmed for the bath. He practiced this on the six-year-old daughter of Royal Rhoads, of Akron, who was suffering with pernicious anemia, and was bound over to the grand jury on January 25 for his trouble.

The patient died some two weeks previous to this date. Fehr diagnosed the case as mercurial poisoning and criticised the physician in charge of the case for the treatment he had been advising.

MIDWIFE CONVICTED.

Julia Akaszenoski, of Cleveland, was found guilty of practicing midwifery without a certificate and fined \$100.00 and costs in Police Court on February 25. The fine was suspended pending good behavior.

Elizabeth Harrath, of Cleveland, was charged with practicing midwifery without a certificate; affidavits being filed before W. H. McGammon, police judge, on February 3. She has also been charged with operating a maternity hospital without a certificate; having been refused certification by the State Board of Health. She is also charged with illegal practice of medicine, affidavits having been filed with Justice Botsinger on March 3.

ANATOMICAL MUSEUM OFFICERS CONVICTED.

The Anatomical Museum located at 211 Prospect avenue, Cleveland, O., has been closed by the police and its officers indicted, tried and convicted. It was controlled by the "Boyd Medical Institute," a mysterious corporation, the real make-up of which it appears impossible to discover, as the directors and managers were changed frequently, possibly for the very purpose of confusing the identity of the responsible par-

ties. In all probability the "museum" was one of a chain of such operated by one Williams, of Chicago.

The *modus operandi* was the display in the exhibition rooms, "to men over 21 years only," of many obscene and disgusting plaster casts representing chiefly venereal diseases. Prominently displayed were signs directing the visitors to consult the doctor upstairs. The manager watched the patrons and seized any opportunity to urge consulting the attending physician. The latter practically always discovered some disease in those thus sent, and mulcted many victims of considerable sums of money.

Hon. John G. Cline, the recently elected prosecuting attorney of Cuyahoga County, gave the matter his personal attention, submitted the charges to the grand jury, which promptly returned indictments against Dr. Albert G. Good and Adolph Slaughter, a negro, who acted as manager. On a jury trial before Judge Ford they were both convicted and motion for new trial overruled. Sentence has not yet been passed. The Cleveland News deserves full credit for exposing the character of the institution, and securing the evidence necessary for the conviction.

BOOK REVIEWS.

(Continued from page 161)

ordinary laboratory methods. The simpler tests are given the preference so far as possible, and yet to be consistent with accuracy. It is strictly up to date and so free from intricate procedures as to make it particularly adapted for the use of students and general practitioners, while at the same time a handy little reminder for the more specially trained laboratory worker. It is well illustrated and handsomely mounted.

A TEXT-BOOK OF DISEASES OF WOMEN. The new (6th) edition, revised. A text-book of diseases of women by Chas. B. Penrose, M. D., Ph. D., formerly Professor of Gynecology in the University of Pennsylvania. Sixth revised edition. Octavo of 550 pages, with 225 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$3.75 net; half morocco, \$5.25, net.

The appearance of the sixth edition attests the well merited popularity of Penrose's Text-Book of Diseases of Women. The author's exposition of the mechanism of uterine displacements is most illuminating, and the chapters dealing with the strain of pathological conditions following in-

juries to the pelvic floor are full of instruction presented with clearness and force. The chapters on fibroid tumors of the uterus and tubal pregnancy are especially noteworthy. Dr. Penrose has not attempted to write a compendium of operative techniques, but has purposely limited himself to a careful description of a single approved line of treatment. For this reason the book commends itself as a work of practical reference not only for the medical student, to meet whose needs it was especially written, but to the general practitioner and the gynecologist as well. It is to be regretted that the author has not allotted some space to differential diagnosis in septic conditions. There are numerous illustrations that add materially to the value of the text, especially the diagrammatic representations accompanying descriptions of operations.

GONORRHEA IN WOMEN. By Palmer Findlay, M. D., of the University of Nebraska. C. V. Mosby Medical Book and Publishing Co., St. Louis, 1908. Price, \$2.00.

An interesting monograph treating its subject ably and fairly comprehensively. It quotes largely from the authorities and gives many valuable references. It is very clear on the strong tendency to chronicity of all cases, and the necessity for greater care and strictness in watching and treating our cases. The author insists very truly that not the cessation of local symptoms, but the total disappearance of the organisms is the criterion of cure.

The sociological questions are well discussed and the systemic infection briefly considered. The chapter on treatment is an excellent one. The book is handsomely mounted and very well printed.

When lactic acid bacilli can be found in the stool but not in the vomitus, look for an affection of the small intestine, and not the stomach.

When the temperature stays up after the reduction of the joint symptoms in acute rheumatism look for myocardial or endocardial inflammations.

Schmidt holds the Diazo reaction as extremely important in the diagnosis of tuberculous peritonitis. In no other condition does it occur in such pronounced form.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

FACTS ABOUT CERIUM OXALATE.

Baehr and Wessler (Archives Int. Med., Jan. 15, 1909) from a series of researches on the manner of action of cerium oxalate find that it acts wholly locally and mechanically and is impotent against vomiting of central origin. Even the soluble salt, cerium nitrate in no wise inhibited centric vomiting. It is therefore irrational to expect results from it in such reflex vomitings as occur during pregnancy. Their conclusions on cerium oxalate are as follows: It is non-toxic; it has no inhibitory action on centric vomiting. In large doses it may inhibit vomiting due to *local irritation* of the gastric mucosa and should be given for this purpose in doses similar to those of bismuth subnitrate, whose action it resembles. It is not absorbed from the gastro-intestinal tract.

FATAL OR SERIOUS RESULTS FOLLOWING OPERATIVE TREATMENT OF BUBOES.

Fuller (The Post-Graduate, Jan., 1909, p. 33) cites cases in which injury to and subsequent necrosis of the femoral vein or artery has caused death from secondary hemorrhage. Also cases in which deep pelvic and even sub-diaphragmatic abscesses have followed too vigorous curetting of a suppurating bubo, resulting in death from sepsis, or prolonged illness. He says:

"The dangers in connection with the surgery of buboes lie in two directions. First, in a direct injury to the blood vessels mentioned, and second, in an inflammatory invasion of the lymph space between the fascia propria of the pelvis and the peritoneum, the infection having entered through the abdominal fascia. Direct injury to blood vessels lies in an actual wounding, during operation, of the femoral artery or vein, of the external iliac artery or vein, or of the epigastric or circumflex iliac artery or vein. The accidental opening of one of these major vessels during an operation of this nature is probably a fatal happening. A similar partial injury to the wall of one of them, there being at operation no actual opening, is generally fatal through secondary hemorrhage.

"The danger from indirect injury to these blood vessels lies in unduly exposing their walls during operation through removal of the connective

tissue and the fascial coverings, thus allowing the infective process to come in direct contact with them. Infection coming in such direct contact with these blood vessels may cause septic phlebitis or through ulcerative action, secondary hemorrhage.

"Inflammatory invasion of the deep lymph space already mentioned is generally occasioned by two surgical errors. First, at the time of operation the basement structures of the bubo are so removed by curetting or by cutting with curved scissors that the abdominal fascia is laid bare and, probably, also actually damaged. The second error lies in making a too narrow cutaneous opening. The combined result of these surgical faults is that the cutaneous opening closes prematurely to a narrow sinus, the original bubo cavity being left a pus-pocket, the content of which finally burrows through the injured abdominal fascia and enters the lymph space."

If it is desired to open the bubo without a general anesthetic, "the patient's arms should be held so that he cannot seize the operator, and the knife should be directed superficially or laterally, not downward, with the little finger of the hand holding the knife rested on the patient's body, before and during making the incision. Thus a deep wound will not be made should the patient suddenly move the body.

"No one can fail to see the importance of the following rules in connection with bubo surgery. In making a primary incision be careful not to enter the knife-point deeply. Make the external opening so free that there can be no premature closure of the external wound. In order to assure this, a cruciform external incision is often wise or necessary. In the case of a virulent bubo, never curette or disturb the necrotic contents, but allow a natural demarcation to take place between the healthy peripheral tissue and that sloughing as the result of the bubonic infection. In the case of suppurative tubercular buboes, after exposing them by free incision, enucleate the tumefied glands by means of some blunt instrument, the operator's thumb often being the most serviceable agent. After removing the glands, do not cut away with curved scissors or with a curette the sloughing, shreddy tissues left at the base, but leave them for a natural detachment. The cavities of these last buboes can be loosely packed with iodoform gauze."

COCCYGODYNIA.

Bland-Sutton, *Clinical Jour.*, London, November 25, 1908:

One of the most common injuries to the coccyx arises at childhood birth in those who marry after the thirtieth year. At this time of life the coccyx is liable to be ankylosed to the tip of the sacrum and when pressed on by the child's head it becomes fractured. In some instances, the fracture fails to unite and forms a false joint, which becomes extremely painful and produces the condition known as coccygodynia. It may also be fractured during horseback riding, or by any direct force applied to the rectum. The patient usually complains of pain on the act of rising from the sitting position. This pain is due to the contraction of the biceps femoris and gluteus maximus. Pain on defecation is also a prominent symptom and is due to contraction on the levator ani and sphincter ani muscles. Direct inspection may show the tip of the coccyx at right angle to the spine, and a finger inserted into the rectum produces pain when pressure is exerted on the tip of the coccyx.—Sachs, via *Arch. Diag.*

EARLY DIAGNOSIS OF INFANTILE SCORBUS.

Koplik (*Arch. of Diagnosis*, Jan., 1909, p. 19) says: "The disease follows some error of nutrition or in the artificially fed, an error in composition of the food, or an error in the treatment of the food after it has been made up for feeding." He emphasizes the fact that scorbutus can occur in breast-fed infants or in those fed on raw milk, because of its "denutritional" composition or state. Scorbutus may have an intestinal source, the process of metabolism having been deranged. The first signs of latent or incipient scorbutus are "a mild anemia, pain in bones and joints, elicited only by pressure or manipulation and the appearance of blood in the excretions or in the vicinity of the bones or periosteum." How slight this evidence may be is shown by cases cited. A child fed on pasteurized milk, healthy, no pain, normal bowel movements, and looking like a breast-fed infant, was having hematuria. Urine examination showed no nephritis. There was a "questionable pinkish line along the vermilion border of the gums. The tibiae were tender to gentle pressure. The hematuria disappeared under an anti-scorbutic regime. Another child, fed on raw "top mixture" containing at least seven per cent fat, suddenly developed fever, and the left thigh became tender to manipulation. General appearance exceedingly good. The tibiae were tender, and a small hemorrhage was dis-

covered over the site of the unerupted left lower canine tooth. The diagnosis was scorbutus due to excessive fat; recovery followed. In conclusion Koplik says:

"It is not an uncommon experience to see infants, at about the sixth month of life, who are apparently thriving and who give absolutely no symptoms, which would lead one to suspect any scorbutic tendency. In such infants, the teeth may not have erupted. Deep pressure on the tibiae will cause these children to wince as if there were some tenderness of the bone. Formerly this was interpreted as being due to rickets. Such infants may be rachitic, but the tenderness in question is scorbutic. The test of the correctness of this supposition in the face of the absence of any symptoms otherwise of scorbutus, is the rapid response of such infants to a change in the diet directed toward warding off the full development of scorbutus."

EXPERIENCES WITH MERCURY GIVEN IN THE FORM OF SNUFF.

Cronquist has now an experience of nineteen cases of syphilis treated with mercury in the form of hydrargyrum cum creta or a finer powder containing 40 per cent metallic mercury. He orders 4 gm. of the powder inhaled during the day in the form of snuff at four different times, never more than five times. When his instructions are properly carried out, this method of treatment proves powerful and effectual, not only as an adjuvant to other measures, but as the main reliance. He gives the details of his nineteen cases to sustain his assertions. He first described this treatment in 1907; his later experiences have confirmed his first favorable impression.—*Hygiea*, Stockholm, Oct., 1908, via J. A. M. A.

[It is hardly to be expected that this method will appeal to physicians except in countries where the use of snuffs is more general. The method is, however, of interest and might on occasion be of value.—Ed.]

THE UNTOWARD ACTION OF IODIDES CORRECTED BY ARSENIC.

"Iodides, as is well known, set up in some patients all the symptoms of a cold in the head, even in small doses. Changes in the mouth, such as enlargement of the tongue, dribbling of saliva, etc., are occasional unpleasant symptoms. Difficulties in this way may frequently be overcome, according to D. M. MacDonald (*The Hospital*) by giving small doses of arsenic (Fowler's Solution) simultaneously."—*N. Y. Medical Journal*, via *Jour. Kan. Med. Soc.*

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

"A Rapidly Growing Distrust of Specialists on the Part of the General Public" was the subject of an address before the Cincinnati Academy of Medicine by William Gillespie. He deplored this with everything which weakens confidence in our profession. Every man who lays claim to special knowledge and skill should, before being intrusted with special work, demonstrate a general fitness for practicing medicine. So long as men insist on entering specialties with no more general training than a good dentist should possess we will find it difficult for the family doctor to push the patient upon the specialist when in actual need of his services. Repeatedly within the last year has the complaint come to me that having consulted a specialist in one department and paid his fee they have been steered to another and yet another until their pockets were depleted and they were compelled at last to consult an old-fashioned doctor before their ills were relieved. The ugly word "graft" very tersely and correctly expresses the motive behind such conduct. When a family is kicked from one physician to another on the pretext that the condition for which relief is sought is out of the line of the man consulted, until for nine trivial ailments nine different specialists are consulted, the victim is justified in concluding that there is either a concerted plan to fleece him or that most doctors are incapable of intelligently practicing medicine. Can the family physician explain away, much less justify such conduct? Is he morally bound to do so? Would it not be better for his profession of he openly condemned it?

Francis Dowling gave an illustrated lecture before the Cincinnati Academy of Medicine February 15, 1909, on the Hospitals and Charities of France. The doctor has but recently returned from Paris and his lecture was full of interest and instruction. All the old and new hospitals of Paris were thrown on the screen and distinguished doctors' pictures were also shown. The magnificent charity system of Paris was described in all its fullness and completeness. The economy and thrift of the French was shown to be really wonderful. What they could get out of a franc is remarkable. The lecture was very well received.

The Clinton County Medical Society met January 28. J. H. J. Upham, secretary of the State Association, read a paper on "The Diagnostic Value of Tuberculin."

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

The following program has been arranged for the Champaign County Medical Society for 1909:

January 14, Urbana—"Rose Law," C. A. Offenbacher and David O'Brine; Druggists C. B. Hatton and Chas. Downey.

February 11, Urbana—"Gonorrhea," J. F. Hamsher; discussion by H. B. Hunt.

"Cough and Sputum," David O'Brine; discussion by V. G. Wolf.

March 11, Urbana.—A paper, S. J. Goodman, Columbus, Ohio.

"Apoplexy," M. L. Smith; discussion by D. R. Emmons.

"Pneumonia in Children," L. M. Norman; discussion by W. A. Yinger.

April 12, Urbana—"Bleeding," E. W. Ludlow; discussion by C. M. McLaughlin. "Third Stage of Labor," S. M. Mossgrove; discussion by O. A. Nincehler.

May 13, Urbana.—Smoker at Douglas Inn, 7 to 10:30 p. m. Paper, Chas. Hamilton, Columbus, Ohio; discussion of State meeting by Delegates David O'Brine. Toasts.

June 12, St. Paris.—Program by St. Paris physicians.

July 8, Urbana.—Paper, Geo. M. Waters, Columbus, Ohio. "Tetanus," Harry Cook; discussion by C. D. Creviston. "Cancer of the Bowel," W. C. Zeller; discussion by Howard Sharp.

August 12, Urbana—"Pyrexia: Cause and Treatment," C. A. Offenbacher; discussion by Nelson Rhodes. "Scarlet Fever," G. W. Pickering; discussion by C. C. Craig.

September 9, Urbana—"Anesthetics," R. A. Rice, Columbus, Ohio. "Malarial and Typhoid Fever," H. R. Zeller; discussed by R. Lee Grimes.

October 14, Urbana.—A paper, Dudley Dunham, Columbus, Ohio. "Diseases of the Pancreas," R. T. Henderson; discussion by J. D. O'Gara. "Ante and Post-Partum Hemorrhage," S. C. Moore; discussion by H. S. Preston.

November 11, Urbana.—A paper, Geo. W. Crile, Cleveland, Ohio. "Mucous Colitis," J. V. Longfellow; discussion by E. W. Ludlow. "Enuresis," Caleb Jones; discussion by Victor O. Longfellow.

December 9, Urbana.—Address by the president, Robt. Henderson. Election of officers.

The Clark County Medical Society held two very interesting and largely attended meetings in the last month. The first paper was read by J. M. Austin, and the subject was, "Some Obstetric Complications I have Met With in Thirty-four Years' Practice." The paper was well discussed and dwelt entirely on what the doctor had met in his extended practice along that line.

The second paper was read by Harry Martin under the title "Psychology of Infancy." The paper related especially to the development of the child and the gradual evolution attained, especially as regards the growth of a normal child. The doctor presented the subject in a very masterful way and the paper was well received.

Shelby County Medical Society program for 1909:

January.—1. "A Question of the Criminally Insane," J. W. Costolo, Sidney; discussion, Drs. Burnett, Hartman and Hussey. February.—1. "Public Morality and State Medical Practice Act," D. R. Silver, Sidney. 2. "A Case of So-Called Hysteria," S. S. Gabriel, Lockington; discussion, Drs. Hussey and Johnston. March.—1. "The Physiological and Therapeutical Effects of Alcohol," M. F. Hussey, Sidney. 2. "Acute Nephritis and Its Treatment," Dr. Hosler, Towawa; discussion, Drs. Costolo and Martin. April.—1. "Relation of the Public to School and School Children," B. M. Sharp, Sidney. 2. "Locomotor Ataxia," D. R. Milliette, Anna; discussion, Drs. Silver and Gabriel. May, Greenville.—Tri-County. 1. "Malformation of the Nose," A. W. Grosvenor, Sidney. June.—1. "Enterocolitis in Children," George E. Martin, Anna. 2. "Infant Feeding," G. A. Harmon, Jackson Center; discussion, Drs. Geyer and Cable. July.—1. "The man, Loramie. 2. "Penetrating Wounds of the Foot," Wm. Milholland, Sidney. 3. "Sudden Abdominal Pain—Its Significance," S. G. Martt, Houston; discussion, Drs. Gudenkauf, Yates and Milliette. August.—1. "The Province of the Physician," C. E. Johnston, Sidney. 2. "The Business Side of Practice," C. M. Faulkner, Montra; discussion, Drs. Silver and LeMaster. September.—1. "The Physician's Vacation," J. D. Geyer, Sidney. 2. "Pathology, Symptoms and Treatment of Cystitis," O. O. LeMaster, Kettleville; discussion, Drs. Biebesheimer and Hubbell. October, Piqua.—Tri-County. 1. "Pain: Its Significance," Thomas B. Cable, Pemberton. November.—1. "Treatment of Diabetes Mellitus," L. F. Hubbell, Sidney. 2. "Country Obstetric Practice," G. A. Biebesheimer, Botkins; discussion,

Drs. Hosler, Ratterman and Harmon. December.—Annual meeting. 1. "The Flora of Diphtheria," A. B. Gudenkauf, Sidney. 2. "The Possibilities of the County Society," E. A. Yates, Sidney; discussion. Election of officers.

The officers for the ensuing year for Shelby County Medical Society are: A. B. Gudenkauf, president, and E. A. Yates, secretary.

A very interesting session of the medical societies of Darke, Miami and Shelby counties was held in the assembly room of the court house in Sidney Thursday, January 7. The meeting was called to order at 0:30 a. m. and the following program was rendered: Paper, "Hernia in Children," W. J. Means, Columbus; paper, "The Radical Cure of Hernia," Warren Coleman, Troy; discussion, Webb J. Kelly and J. E. Monger. 12 m., dinner served in the parlors of the Baptist Church. Paper, "Psychology of Habit," Chas. D. Mills, Marysville; paper, "A Question of the Criminally Insane," Dr. Costolo; discussion, G. W. Burnett, S. D. Hartman and M. F. Hussey. Paper, "Anesthetics, Local and Systemic," Dr. Fitzgerald; discussion, H. W. Kendall and W. C. Guteruth.

Montgomery County Medical Society regular meeting was held at Dayton, Friday evening, February 5. The program was as follows: "The Association of Age and Cataract in Normal and Pathological Blood Pressure," D. W. Greene; "The Clinical Side of High Blood Pressure and Its Treatment," W. J. Conklin.

Regular meeting of the Montgomery County Medical Society was held at Dayton Friday evening, January 22. The program was as follows: Report of cases by Drs. Barker, Goodhue, Breese, Miller, Dunham, Ewing, Delscamp, Bunn, Gohn, Allaman and Bowers. "Final Consideration of the Revised Constitution."

Regular meeting of the Montgomery County Medical Society was held at Dayton Friday evening, February 19. The program was as follows: "Adenoids and the Examination of the Ear," J. H. Farber; "Examination of Eyes of School Children," H. C. Harris.

THIRD DISTRICT

H. B. GIBBON, M. D., Collaborator.

A regular session of the Allen County Medical Society was held at Lima Hospital Tuesday, February 16, 1909, at 8:15 p. m., with the following members present: T. M. Johnson, A. Pfeiffer, L. F. Roush, D. W. Steiner, Oliver Steiner, Lea-

therman, Chenoweth, Bice, Rudy, Bennett, Creps, Laudick, Bowser, Steuber, A. D. Knisely, Mumaugh, Tussing, Burton, Parent and Lickly.

A. S. Rudy and D. W. Steiner were added to the tuberculosis committee, which now consists of the following from the Medical Society: Drs. Hover, Burton, Parent, Poling, Tussing, Rudy and Steiner from the Medical Society and five members from the Pastors Union.

The application of L. H. Hauman, of West Cairo, for membership was received and referred to the Board of Censors.

Oliver Steiner read a well prepared paper on "The Present Status of Serum Therapy." The following is an outline of the essay:

Short historical sketch.

Serum therapy dependent upon production of immunity.

Definition of immunity discussed with reference to its character and theories for its production in the individual.

Active immunity, the special field of vaccine therapy.

Passive immunity, the field of serum therapy proper, the term "Serum therapy" sometimes used in a broader sense to include vaccine treatment as well.

Serum treatment taken up with respect to the principles why sera are successful and why they fail in the treatment of disease.

Drawbacks to the use of sera mentioned and the means employed to combat the same.

Discussion of the use of sera and their value in tetanus, diphtheria, hay fever, typhoid fever, dysentery, pneumonia, tuberculosis, cholera, plague, meningococcic meningitis, syphilis, carcinoma, sarcomata, scarlet fever, streptococcic and staphylococcic affections and gonorrhea.

Prophecy.

Discussion was opened by Dr. Creps, followed by Drs. D. W. Steiner, Rudy, Bennett, Bice, Mumaugh, Knisely, Bowser, Laudick, Tussing, Parent and Steiner.

The regular monthly meeting of the Marion County Medical Association was held Tuesday, February 2nd.

S. W. Fowler, of Delaware, Ohio, read an interesting paper on "Leprosy, as Seen in the Orient." Dr. Fowler recently made an extended trip abroad.

President J. W. Adair delivered his inaugural address and outlined the policy of his administration for the year.

Regular session of the Allen County Medical

Society was held at Lima Hospital January 19, at 8:15 p. m., with the following present: Drs. Parent, Rudy, Thomas, Sidener, Poling, Burton, Laudick, Mumaugh, Bice, Hover, Roush, Hiner, Huntley, Chenoweth, Knisely, Steiner, Tussing, Johnson, Leatherman, Jenkins and Lickly, of Lima; Dr. Weger, of Delphos, and Dr. Yingling, of Beaverdam.

W. H. Parent read the essay of the evening, "Pneumonia in Children."

Pneumonia is an important primary and secondary disease of childhood and an important factor in infant mortality. It is divided anatomically into broncho-pneumonia and lobar pneumonia, differing as to product of inflammation and distribution in the lungs. In broncho pneumonia the larger bronchi are the seat of a superficial inflammation, while in the smaller the entire bronchial wall is involved. The exudation is composed of epithelial cells, leucocytes and red blood cells, with but little or no fibrin. The lesion is unusually widely distributed. Resolution is apt to be imperfect.

In lobar pneumonia the bronchitis is very superficial. The principle product of inflammation is fibrin, the cells are few and are mainly leucocytes. The area involved is usually sharply involved. Resolution is usually complete. If typical, the two forms are very distinct, but mixed forms may occur, especially in the second and third years. In broncho pneumonia the infecting organism is never single. The pneumococcus, the staphylococcus, the streptococcus are all to be found. In lobar pneumonia there is usually a pure culture.

The source of infection is the mouth, throat or nose, the germs being always found in these cavities.

Broncho pneumonia is the form usually found in infancy and may be primary or secondary. Mortality is high and death may occur at any stage of the disease, or the process may be arrested and recovery ensue. As a sequel, pleurisy, emphysema, gangrene or abscess may occur.

Symptoms vary. High temperature, extreme prostration, cyanosis, with rapid respiration, are typical of the disease. Oscultation reveals fine sibilant rales replaced after a few hours by moist rales, with coarser rales over the larger bronchi.

Lobar pneumonia is an infectious disease depending upon the micrococcus lanceolatus, and accompanied by a local lesion in the lungs, with general symptoms depending upon the extent of the local lesion.

The period of greatest frequency is from the

second to the tenth years. Season has little effect, though winter and spring probably carry the greatest number of cases.

The disease usually affects a single lobe or a circumscribed part of a lobe. The onset is usually sudden. After a few hours of indisposition the patient is seized with a sudden attack of vomiting, followed by a sudden rise of temperature to 102 or 104 degrees, pulse 120 to 160, respiration 40 to 60. There is often pain in the affected side. The condition remains the same, with coated tongue and cough, until the crisis occurs (usually from the seventh to the tenth day). Then the temperature falls rapidly and respiration and pulse become normal. Resolution brings the case to a happy termination.

The treatment is supportive: a light room and pure air.

The Allen County Medical Society held its regular monthly meeting at the Lima Hospital, Tuesday, February 2, at 8:15 p. m. The following were present: Drs. Huntley, Vail, Rudy, Mumaugh, A. D. Knisely, Steiner, Bennett, Sidener, Roush, Laudick, Burton, Parent, Thomas, Chenoweth, Bice, Terwilliger, Johnson and Lickly, of Lima; Drs. Weger and Burnett, of Delphos; Drs. Stadler and Hauman, of West Cairo, and Drs. Lewis and Herr, of Elida.

B. E. Leatherman, of Lima, was elected to membership.

R. D. Kahle, T. T. Sidener and Dr. Tillotson were appointed committee on public health and legislation.

J. B. Vail read a very interesting essay on "Rational Therapeutics, Not Therapeutic Nihilism or Skepticism." This was discussed by the following: Drs. D. W. Steiner, Burton, Parent, Roush, Stadler, Weger, Bennett, Mumaugh and Vail.

Dr. Herr then read a well prepared paper on "Belladonna."

Abstract of paper by A. M. Steinfeld, of Columbus, on the "Diagnosis and Treatment of Tuberculosis of Hip Joint in the Child." Read before the Logan County Medical Society.

Symptoms.—The child is content to sit and look on instead of entering into the sports of the playground. At night he awakens and cries out with pain. During wakeful hours he limps slightly. In examining the patient place him upon the table on his back; always examine the sound limb first in order to gain confidence of little patient. The entire pelvis will be seen to move when affected limb is moved. The real

shortening occurs late when the acetabulum becomes affected. The Synovial membrane is swollen and congested and causes the pain in the night when the will power is off duty. Early atrophy limited to the capsule is one of the early signs; and it never occurs in Arthritis Deformans. An X-Ray examination with the above named physical signs are sufficient to make the diagnosis.

Some of the diseases to be differentiated, viz.: Simple synovitis, rheumatism, extra-articular disease, fracture, congenital dislocation, etc.

Treatment.—Fixation of joint without any movement must be made when the first symptoms are seen and continued until symptoms cease and for a little while longer. Traumatic relapse is almost sure to occur where autolysis is not a success. Ninety-two per cent of cases will not have articular abscess if properly dressed and fixation is maintained. Always dress the limb in the position that you find it in. Don't fight nature by changing or correcting the position.

Abstract of Paper by A. J. McCracken on "Palliative Treatment of Prostatic Hypertrophy."

Summary.—I. Make a complete and careful record of patient's history and symptoms.

II. A careful and methodical examination with a record of findings, these to be studied with previous records. The faithful following up of these two methods in each and every case will develop an accurate and conscientious diagnosis.

III. A rational and complete line of treatment for each case and a persistent adherence thereto.

IV. A careful selection of catheters. The greatest care as to cleanliness and sterilization at all times and in each and every case.

V. Lastly, the greatest advantages and comfort afforded by the prolonged and continuous bladder drainage in all cases with infected urine and damaged kidneys, and in all cases who refuse the radical operation, or who for good reasons cannot undergo the radical cure.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Surgical Section of the Academy of Medicine of Toledo and Lucas County met January 22. The general subject was "Gall Stones."

C. T. Souders read a paper on the "Etiology of Gall Stones." Dr. Souders reviewed the literature upon this subject. Some of the most important contributions to this subject were touched upon:

According to Naunyu, inflammation plays an important part and usually initiates the process. The infective agent is usually the colon or typhoid bacillus. Desquamated epithelium and bacteria form the nucleus and the other constituents are deposited upon this. Cholesterin is the chief constituent of gall stones, although the calcium salts of the bile pigments are also present in large degree. The disputed point is the origin of the cholesterin and the calcium salts. Normal bile contains cholesterin, but only in small amounts. Naunyu believes that cholesterin arises from the disintegration of the desquamated epithelial salts.

The work of Bacmeister was reviewed in detail. He found that the bacillus pyocyaneus and the bacillus proteus, likewise the colon and typhoid organisms, can cause a precipitation of cholesterin. Likewise a cholesterin precipitate may occur from sterile bile. The process consists first in the appearance of myelin droplets, forming cholesterin clumps. The process is more rapid in bile containing epithelial cells. Bacmeister believes that cholesterin depends on an autolysis of bile, and the first stone arising in the gall bladder is due to stagnation. The bacterial infection follows from the presence of favorable surroundings.

L. F. Smead read a paper on the "Symptomatology and Diagnosis of Gall Stones." He said that a large per cent. of gall stones give no typical symptoms, but are the cause of indefinite gastric disturbances and pancreatitis. Urotropin is valuable in reducing the inflammation of the ducts and making the stones latent, but drainage of the ducts will be necessary for a cure in most cases.

Pain in gall stone diseases may be divided into dull and acute pain and colic. The dull pain characterized by chronic cholecystitis, offers much trouble for diagnosis. A tender gall bladder or a tender liver (Boas) being valuable diagnostic points. Second are the cases with acute sharp pain characterized by acute cholecystitis, which must be differentiated from acute conditions in the upper abdomen and from acute appendicitis. Third are the rarer, but more frequently recognized cases of biliary colic due to a spasm of the ducts behind an obstruction such as a stone. The character of the pain and following jaundice being the most valuable points. The diagnosis is most often from kidney colic, acute appendicitis, acute cholecystitis or perforating viscus in the upper abdomen. Nausea and vomiting are common, but not specific symptoms. They are both direct and reflex in origin. Jaundice is an important but rare symptom in gall stone diseases,

being absent in 80 or 90 per cent. of all cases and in 33 per cent. of common duct cases. It is valuable evidence if present, useless if absent. It is quite characteristic in ball valve stones and in carcinoma.

Pancreatic jaundice is probably common and includes cases of so-called catarrhal jaundice. Hemorrhages and great loss of weight in common duct stone is probably frequently associated with pancreatitis.

Fever is absent or may reach 103 or 104 and varies in type, but is usually intermittent. A persistent temperature suggesting at once suppuration.

Tumor of the gall bladder is best diagnosed by the fact it must rise with the liver during expiration. Inflation of the stomach or colon will not cover a gall bladder as it will a kidney.

Courvoiser's law does not say that a large gall bladder with chronic jaundice means carcinoma and merely that the obstruction is not a stone. It depends upon the fact that along with the obstruction there is a thin walled, easily dilated gall bladder.

A large liver in gall stone diseases occurs in common duct obstruction or with cholangitis or hepatitis. A Riedels lobe is not infrequent. Ascites in cholelithiasis is the result of obstruction of the portal vein or possibly an accompanying abdominal tumor.

J. H. Jacobson read a paper entitled the "Relation of Gall Stones to Carcinoma." Primary carcinoma of the gall bladder almost always occurs in combination with gall stones. It is very probable that carcinoma of the gall bladder originates from the ulcerations and cicatrices in the wall of the gall bladder, as happens in the case of cancer of the stomach. Women are attacked much more frequently than men, probably due to the predisposition of the female to cholelithiasis. Courvoiser found carcinoma of the gall bladder in 27 per cent. of cases with gall stones; Siegart found gall stones almost without exception in primary carcinoma of the gall bladder (95 per cent.). Friedman collated 79 cases of carcinoma of the gall bladder and found gall stones in 79.7 per cent. The effect of gall stones on the epithelium of the mucous membrane is to convert it into a horny flat epithelium.

Carcinoma developing in the gall bladder gives rise to a painful nodular, gradually enlarging tumor. It may involve the cystic, hepatic and common ducts and cause biliary stasis. If the tumor grows toward the liver it may escape detection.

The above papers were discussed by Drs. Betts,

Todd, Donnelly, Snyder, Levison, Doherty, Weitz, of Montpelier, and others.

The Eye, Ear, Nose and Throat Section of the Academy of Medicine of Toledo and Lucas County met January 29. The general subject was the "Faucial Tonsil." A. L. Steinfeld read a paper on the "Physiology and Pathology of the Tonsil." He said that it is held by some that the tonsil is a lymphocyte maker and that after its removal a difference can be noted in the blood count. It is also held that it has powers of absorption, that it is a ductless gland, that it is a phagocytic organ. Stohr showed in 1884 that there is a constant wandering of leucocytes from the interior to the periphery of the tonsils. Various experiments have been performed to demonstrate the absorbing power of the tonsil. The tonsils have been covered with carmine or Berlin blue and then excised. The results of this experimentation have been conflicting.

Hypertrophy of the tonsil is an exceedingly common pathologic change. Primary attacks of inflammation lead to the formation of new connective tissue. In children the hypertrophy is usually glandular, while in adults there is a greater hyperplasia of connective tissue. The mouths of the crypts always harbor organisms, and in the course of enlargement the crypts become occluded with retention of bacteria and exfoliated epithelium. Toxins are generated, which further damage the epithelium.

A diseased tonsil need not necessarily project beyond the pillars. All that so project should be removed, although this may also be necessary for small tonsils. Such tonsils have been found to be the seat of the tuberculous foci. Infection starting in the tonsils may involve the deep anterior cervical chain of glands. Streptococci have also been found in the tonsils. Heubner and Bahr saw a case of fatal scarlatina and acute articular rheumatism following membranous tonsillitis.

Rosenheim reported eleven cases of acute articular rheumatism in which the tonsils were removed and studied bacteriologically, all showing streptococci and staphylococci externally.

W. W. Alderdyce read a paper on "Simple and Follicular Tonsillitis." He said that acute tonsillitis is a manifestation of a diseased condition of the tonsils, in which hypertrophy exists in a greater or less degree. The inflammation may occur as a superficial catarrhal form or as a follicular form. There is also a parenchymatous type. Although all these types are stages of one

disease, a classification of tonsillitis bacteriologically has not practical value.

The disease occurs more often in youth and adolescence. One attack predisposes to another. The commonly given exposure to cold is only of significance in a secondary way by temporarily lowering resisting powers of the tissues.

The symptoms are pain, difficulty in swallowing, tenderness of the lymphatics at the angle of the jaw, dryness of mouth, salivation, fetor of the breath, slight cough. The tonsils are red and swollen, covered with an exudate of muco-pus, redness of the uvula and faucial pillars. The attack comes on rapidly; lasts but a few days, with a rapid subsidence. The fever may rise within a day to 103 or 106.

The diagnosis is to be made from diphtheria. In follicular tonsillitis, the soft, yellowish white exudate occurs over the mouth of the follicles, is limited to the tonsils and the exudate is easily removed and does not bleed, leaving a smooth surface. In diphtheria, the membrane is whitish-gray, spreads to the uvula, soft palate, pharynx, larynx, is tough, not easily detached and leaves bleeding points if slipped off and has a marked tendency to reformation. The bacteriologic diagnosis is decisive when this is made.

Treatment should begin with the evacuation of the bowels. Aconite, bryonia, belladonna and mercury binioid are recommended. Cold applications to the throat are valuable, also alkaline gargles. There is, however, no end of remedies. Codeine and Dover's powders will relieve the pain. Guaiacum or the ammoniated tincture has long had a reputation in the treatment of this disease. As one attack predisposes to another, the offending organs should be removed during the quiescent stage.

F. W. Alter read a paper on "Peritonsillar Abscess." He said that in about 90 per cent. of these cases the tendency of the pus is to burrow in an upward direction into the soft palate, but limited to one side of the soft palate by the dense connective tissue in the median raphe. In about 10 per cent. of the cases the pus passes down into the posterior pillars of the fauces on the lateral wall of the oropharynx.

The same etiologic factors are concerned in the production of this affection as in acute tonsillitis. It is most frequent between the eighteenth and thirtieth year. The streptococci and staphylococci are the usual organisms at fault.

The symptoms are those of tonsillitis. The onset may be severe, with chills, intense pain, inability to open the mouth, painful swallowing,

weakness, dyspnoea and stiffening of the muscles of the neck. Examination may be difficult and shows a bulging forward of the soft palate and anterior pillars.

The treatment is incision over the greatest swelling on a line midway between the ovula and last molar tooth. Spraying the field of operation with 10 per cent. cocaine diminishes the pain. The incision should be carefully made to avoid wounding the deep blood vessels, particularly the ascending pharyngeal. To this end it is advisable to wind with adhesive plaster. Dr. Alter packs the incision with a strip of iodoform gauze, which is removed after twenty-four hours and the cavity again washed out.

Following the recovery of the patient the status of the tonsils should be determined. Usually the crypts are filled with yellow cheesy material. It is therefore advisable to prevent future attacks, and in no way can this be better done than by a thorough eradication of the tonsils.

John North read a paper entitled "Enlarged Tonsils." The anatomy of the tonsil was first described. Dr. North argued that the tonsil as we ordinarily understand the word does not exist in the normal individual. In place of the tonsil there is to be seen a number of orifices, from which branch numerous follicles. These follicles are lined by a continuation of the mucous membrane of the pharynx. In the healthy condition, the space between the anterior and posterior pillars is an inverted trough; if we place our fingers in it without applying pressure we find a thickened condition of the mucous membrane.

Dr. Robert E. Lawless read a paper entitled: "Tonsillectomy." Tonsillectomy can and should be done simply. The ideal instrument is a well sharpened straight scalpel; the snare, ecraseur, scissors and punch find place exceptionally. After separating the tonsil from the anterior and posterior pillars and its superior and inferior attachments, there is no reason to use a snare to complete, with delay and added traumatism, when it can be effected with the same instrument used in separating.

It is a notorious fact that the snare does not follow the capsule, but has a distinct tendency to cut through the tonsil and leave a piece behind. The danger of hemorrhage is not so great with the knife if the muscular tissue is not injured. Coagulation is a good indicator. Secondary hemorrhage is due to sloughing; is more liable to follow the use of the snare. Clean cut incisions heal kindly.

Working with the Ballenfer operation the objectionable features were: The last step, where

it was found to be easier, on account of location, to discard the knife and finish with the snare; the changing of the forceps. West's posterior operation, done with the straight scalpel alone, was more easily accomplished.

Lately, by grasping the tonsil firmly with the Andrews forceps, one blade sunk deeply into the lower portion of the tonsil, the other into the upper, and making a complete incision around the margin of the tonsil with a scalpel, commencing at the angle of the posterior pillar and the supra tonsillar margin, direction down; rotating the tonsil with the forceps to stretch the tissue cut through; pulling the tonsil directly into the mouth, hugging closely to it and dissecting it from the superior constrictor muscle, completing the operation, I have been able to do what I consider a surgically good tonsillectomy better than by any other method.

The Pathological Section of the Academy of Medicine of Toledo and Lucas County held its regular meeting Friday evening, February 12, 1909, at 8:15 o'clock. Program: "Angio Neurotic Edema and Allied Affection," G. P. Hohly; discussion, Louis Miller, Thomas Hubbard. "Osteo-Myelitis," C. D. Selby. "Osteo-Myelitis from the Standpoint of the Roentgenologist," with twenty-five slide illustrations, Harry Dachtler.

The Academy of Medicine held its general meeting on Friday evening, February 5th, 1909, at 8:15 o'clock. Program by the Ohio State Board of Medical Registration and Examination. "Reciprocity," George H. Matson, Secretary of the Board; "Preliminary Requirements and Medical Standards," E. J. Wilson, Columbus, Ohio; "Legal Matters Pertaining to the Board," H. H. Baxter, ex-President of the Board, Cleveland, O.

The Medical Section of the Academy of Medicine held their regular monthly meeting on Friday evening, February 19, 1909, at 8:15 o'clock. The program was as follows: "The Preparation of the U. S. Pharmacopeia and the National Formulary as Applied to the Practice of Medicine," William McK. Reed; discussion by Walter W. Brand. "The Home Versus the Factory in the Preparation of Infant Foods," John F. Liken; discussion by George L. Chapman. "Eggs," Geo. Jones; discussion by U. S. G. Deaton.

The Williams County Medical Society held its annual meeting for 1909 Thursday afternoon, January 14. The program was as follows: "Clin-

ical Diagnosis," W. L. Hogue; discussion, S. S. Frazier, A. G. Goll, A. Hathaway. "The Conjunctiva in the Early Diagnosis of Tuberculosis," C. E. Hoover; discussion, W. A. Held, A. E. Keiser, J. V. Lesnet. "Pancreatitis: Chemical Pathology," N. W. Brown, Toledo; "Pancreatitis, the Etiology and Diagnosis," C. N. Smith, Toledo.

The Pathological Section of the Academy of Medicine of Toledo and Lucas County met February 12.

G. P. Hohly read a paper on "Angio-Neurotic Oedema and Allied Affections."

He said that this condition was characterized by the appearance of local patches of œdema, transient in nature. There seems to be an hereditary factor. The œdemas usually appear suddenly on the face, more commonly the hands, legs or throat. There seems to be a fairly constant accompaniment of gastro-intestinal symptoms in many cases, such as vomiting, nausea, colic, pain. The disease has also some relation to urticaria and erythromelalgia. The condition is regarded as a vaso-motor neurosis by Quincke. The vessels seem to undergo a sudden change as to permeability. The pathology, however, is uncertain and indefinite. The treatment is unsatisfactory. Associated conditions, such as anemia or nervousness are to be appropriately treated. Strychnine and nitro-glycerin are sometimes given.

This paper was discussed by Drs. Louis Miller, Hubbard and others. Dr. Hubbard pointed out the similarity of angio-neurotic œdema to urticaria, but there was the essential difference that the latter is more shifting, the attacks intermittent and has a closer relation to gastro-intestinal irritation. There are analogous conditions of mucous membranes, called hydrorrhea and œdema, which are of more interest to the rhinologist.

The *reflex type* is the simplest form. As an example of this, there was cited a case of an old gentleman who became suddenly afflicted with sneezing and a copious watery discharge from the nose. The source of reflex irritation was found in the presence of inspissated cerumen in the tympanum. Removal of this gave permanent relief. The *neurasthenic type* may express itself in many ways. An illustration of this type was cited of a young lady carrying on excessive work as a stenographer and in literary pursuits. Irregular, recurring attacks of hydrorrhea and

œdema appeared and did not disappear until after six months' enforced rest and a change in occupation.

Auto-toxemia may affect the mucous membranes and likewise the infectious diseases like la grippe.

There may also be angio-neurotic œdema following the administration of antitoxin. This may occasionally cause death in these cases.

The manifestations of osteomyelitic processes, as shown by the Roentgen examination, were demonstrated by H. W. Dachtler by a series of lantern slides reproduced from original negatives. The fact that many cases of chronic osteomyelitis in the neighborhood of the joints, and localized bone abscesses, were erroneously diagnosed as tuberculous osteitis, was mentioned. The Roentgen characteristics of these two distinct processes were shown to demonstrate the dissimilarity of the two conditions, and that a differential diagnosis could be made by the Roentgenologist.

The osteomyelitis process usually originates in the diaphysis and may extend to the epiphysis or to the joint. The tuberculous osteitis almost invariably originates in the epiphysis and early involves the joint. In the comparatively rare cases in which it extends to the diaphysis the sclerosis and periosteal new bone formation so characteristic of osteomyelitis is absent.

It was pointed out that syphilis might be confined with osteomyelitis. In syphilis there is a marked sclerosis following the gummatous infiltration of the periosteum. If this is confined to a single area it is so characteristic that mistakes should not occur. If multiple and the gummata have become confluent the peculiar wavy contour is diagnostic of syphilis. A further diagnostic feature of syphilis from the Roentgen examination is that it seldom involves the entire circumference of the bone as is usual in osteomyelitis.

Sarcoma and solitary bone cysts were considered and it was shown that these need not be confined with osteomyelitis, the Roentgen characteristics being entirely different.

FIFTH DISTRICT

FRED W. HITCHINGS, M. D., Collaborator.

At a meeting of the Lorain County Medical Society held February 9, the "Emanuel Movement" was discussed by the Rev. Dr. Thomas S. McWilliams, of the Cleveland Presbyterian

Church. Wm. Bunce discussed the negative side of the question.

The Erie County Medical Society met in regular session on January 27 at the court house. A calendar, based upon the course of study, was adopted for the year.

An interesting paper upon "Etiology and Diagnosis of Endocarditis," by F. M. Haughteling, of Huron, was read. This disease may occur in foetal life and is quite common in childhood as an accompaniment of other affections. It is often the first manifestation of rheumatism, but it is usually the simple form of the disease. Tonsillitis may be complicated by endocarditis, as may scarlet fever.

It is usually secondary to a pre-existing disease, especially pneumonia. Chronic valvular disease strongly disposes to it.

A soft blowing murmur is more likely to indicate endocarditis if it is heard only or more distinctly over the mitral area, less likely if over the aortic. The most reliable sign in conjunction with the history of the case is the well marked systolic mitral murmur. From pericarditis it is distinguished by the single soft, blowing murmur, is transmitted beyond the borders of the heart and is diminished by full inspiration. Malignant ulcerative endocarditis exhibits chills, irregular fever, sweats and embolic phenomenon, frequently confounded with typhoid fever. There is the abrupt onset, cardiac pain and irregular pyrexia.

Prof. E. L. Mosely, teacher of natural sciences in the Sandusky High School and a biologist of extensive information, presented a summary of some years of experimentation upon the cause of milk sickness, which occasionally appears in certain localities in this section. He has determined that one variety of eupatorium found in the pastures poisons the cows; that the milk shows it first, and that the meat is poisonous. He has isolated the salt from the plant which produces the symptoms of trembles and exhibited some animals which were showing all the symptoms of the disease as a result of the toxic action of this drug. He will very shortly be ready to publish his researches to the profession.

The society voted to thank Prof. Mosely for his patient and laborious work in this direction and will have the paper published as soon as possible.

The fifty-seventh regular monthly meeting of the Lake County Medical Society was held at the Parmly Hotel, Painesville, Ohio, Monday evening, February 1, 1909. The program was as fol-

lows: Minutes of last meeting; reports; miscellaneous business; paper, by A. J. Skeel, Cleveland, "The Early Diagnosis of Pre-eclamptic Toxemia."

Erie County Medical Society has prepared the following program for 1909:

February 24—"The Present Status of Serum Therapy," C. R. Knoble; "The Practical Value of Vaccines and the Opsonic Index," H. D. Peterson; "Diseases Due to Parasites Entering the Body Through the Body," Fred Schoepfle.

March—Special lecture by someone from a neighboring city.

April—"Treatment of Cystitis," J. T. Haynes; "Diagnosis and Treatment of Gastric Ulcer and Intestinal Obstruction," Charles Graefe; "Varieties, Diagnosis and Treatment of Appendicitis," H. C. Schoepfle.

May—"Cause and Treatment of Post Partum Hemorrhage," C. C. Davis; "The Abuse and Use of Forceps," W. Storey; "Complications of Labor and Their Treatment," M. J. Love.

June—"Early Diagnosis and Treatment of Locomotor Ataxia," R. E. Garnhardt; "The Neurotic: Recognition and Treatment," H. A. Greenwald; "Suggestion as a Part of the General Practitioner's Armamentarium," J. P. Esch.

July—"Malaria Poisoning: Etiology, Diagnosis and Treatment," S. Gorsuch; "The Chill: Its Significance from a Medical and Surgical Standpoint," P. F. Southwick; "Insanity in This State: Affecting Responsibility for Crime; Affecting Civil Rights," W. E. Guerin.

August—Joint meeting with neighboring counties.

September—"Our Tubercular Brethren," H. C. Schoepfle, health officer; "The Care of Uncomplicated Fractures of the Long Bones, Through the Shaft and at the Joint," W. H. Pollock; "What Good Does the General Practitioner Obtain from the Use of Electricity in His Work?" W. D. Hoyer.

October—"Diagnosis and Treatment of Dislocations of the Larger Joints," C. H. Merz; "Treatment of Tubercular Joints," J. F. Bausch; "What Should the Public Do to Provide Better Hygienic Conditions in the Public Schools?" W. Graefe.

November—"Diagnosis and Treatment of Acute Mastoiditis," Carl Tuttle; "Adenoids: Recognition and Treatment," C. B. Bliss; "Sandusky: Past and Future as to Water Supply, Sewers, Fire Protection, Street Improvement and Care of Garbage," Mayor Molter.

December—Election of officers; reports.

The Huron County Medical Society met February 11, 1909. "The Emmanuel Movement" was discussed by the members of the society.

The Medina County Medical Society met Wednesday, February 3. The program was as follows: Paper, Harry Street; report of case, Thos. Cassidy; paper, Platt E. Beach; report of case, H. E. Hard; paper, E. L. Modie; report of case, J. E. Wall. Election of officers.

The Clinical and Pathological Section of the Academy of Medicine of Cleveland held their 57th regular meeting February 5, at 8 p. m. at the Cleveland Medical Library. The program was as follows: "Wright's Vaccine Therapy," with report of cases, L. W. Ladd, H. C. Russ; "Thermo-Vibrissage: Description of Apparatus; Brief Summary of Experimental Work," report of sixty clinical cases, F. W. Hitchings, J. B. Austin; (a) "Eighteen Months' Experience in the Use of Tuberculin in the Treatment of Surgical Tuberculosis," (b) "Bismuth Injections for the Cure of Old Fistula," W. G. Stern.

At the regular meeting of the Geauga County Medical Society, held February 4, J. R. Davis, of Chardon, gave a very practical paper on "Vincent's Angina and Differential Diagnosis in Diphtheria," which was followed by an interesting discussion of the best means of combating this disease. The consensus of opinion was in favor of the early use of antitoxin.

J. A. Healey, of Parkman, was elected to membership, and a resolution was drawn up and acted upon stating that as a society we most emphatically protest against the passage of Senate Bill No. 3, to regulate the practice of optometry in this state.

The Ashtabula County Medical Society held its forty-first regular meeting Tuesday evening, February 2, at 7:30 p. m. This meeting was devoted entirely to the presentation and demonstration of instruments, with general discussion.

At the meeting on December 18 of the Cleveland Academy of Medicine, Robert W. Lovett,

of Boston, Mass., read a paper on "The Modern Treatment of Tuberculosis of the Spine." The following is an abstract:

In 1779 Percival Pott, Surgeon to St. Bartholomew's Hospital, of London, then at the height of his well deserved fame, published an essay "On That Kind of Palsy of the Lower Limbs Which is Frequently Found to Accompany a Curvature of the Spine and is Supposed to be Caused by It, Together with Its Method of Cure." In a second essay, following this in 1783, on the same subject, a more extensive consideration of the same condition was given, in which the cause of the spinal deformity was definitely attributed to a carious condition of certain vertebræ. To Percival Pott, therefore, has been credited the recognition of a condition named after him as "Pott's disease," which name is only now being supplanted by the more rational one of "tuberculosis of the spine."

The subject of spinal tuberculosis and its treatment has thus been studied for over a hundred years. The pathology and etiology of the affection are well formulated, the therapeutic indications are clearly written in the pathology and many efficient methods of treatment have been formulated. In the present paper, therefore, I shall not advocate any new method of treatment, believing that among those in use can be found all that are needed, but I shall rather ask your attention to a careful consideration of the essentials of the mechanical problem to be met and to the relative values of existing methods of meeting it, dwelling rather on principles than on details. I would particularly call your attention to the need of the application here of those principles of general surgery which are recognized as effective in other conditions which run more or less parallel to this. If surgeons treated fractures of the leg with no more recognition of these principles than is the case in a great deal of the treatment of spinal tuberculosis, there would be very many crooked legs in the community.

I shall therefore call your attention to the methods of treatment with which we are all more or less familiar and for the use of those which I advocate I am prepared to give reasons, the value of which you can estimate for yourselves on general principles, for I assume that I am not addressing an audience of specialists. These conclusions rest in a large measure on the analysis of 1792 cases of Pott's disease from the records of the Children's Hospital, Boston.

The final outcome in every case of spinal tuberculosis depends upon the result of a contest going on in the individual between the destructive tuberculous process and the reparative power of the individual. If the former prevails, the patient dies; if the latter, he recovers. Before, then, considering what kind of local treatment we should adopt in these cases, it is desirable to consider in what way, if any, we may stimulate the process of repair in the affected individual.

It is a matter of common information that those persons who lead an outdoor life are in general healthier than those living indoors, but only of very recent years has it been recognized that a life wholly out of doors in the case of

tuberculous children is of the very greatest value in raising the general standard of health and of increasing the resistance of the individual.

In former years patients with spinal tuberculosis were occasionally sent south with instructions to be out of doors as much as possible. We have now learned that we may keep such patients out of doors day and night, winter and summer, in a climate as severe as Massachusetts, not only without risk, but with very great benefit.

Since December, 1904, the patients with spinal tuberculosis and other forms of tuberculous joint disease at the Convalescent Home of the Children's Hospital at Wellesley Hills (14 miles from Boston) have lived in the open air, passing the day in an open playroom and the nights in open sheds, heated in the severest winter weather to about 20 degrees F. An analysis was made from the continuous observation of seventeen bad cases from the time of their transfer from the wards of the hospital to open sheds. The average gain in weight was one pound a week and an average increase in the percentage of hemoglobin occurred to the extent of 20 per cent. The amount of food consumed by these children increased about 30 per cent. and it has been a matter of experience in these three years that the general average of progress has been better, that fewer intractable cases have been met, and that in general spinal tuberculosis has been on the whole more amenable to treatment than before.

If such results are to be obtained by out of door life in a climate like that of Boston, where the winters are long and severe, with a temperature frequently falling below zero and often with continuous weeks of snow, it must be evident that in milder climates such measures are still more easily to be carried out. The importance of making outdoor life the accompaniment of whatever mechanical treatment is pursued is to my mind of primary importance and cannot be brought too strongly to the attention of the profession. I should not have insisted so strongly on this point were it not that certain recent authoritative works give the matter but slight mention. It is too soon to speak definitely as to the results from the use of tuberculin in the minute doses now being used and of the other forms of serum treatment. It is quite possible that it may aid the outdoor treatment in checking the ravages of the tuberculous process. The importance of proper and nourishing food and suitable hygienic surroundings is self evident.

Mechanical Treatment.—The mechanical problem is simple and definite. We are dealing with a weight-bearing column, the spine, which has softened, as a result of which the top of the column has fallen or is falling forward, crushing the softened area and making an angular projection backward at the site of the disease.

The object of treatment is obvious—namely, to secure ankylosis between the diseased bones as rapidly as possible and in the best possible position. We have as an asset in our treatment the knowledge that tuberculous bone tends to heal under favorable conditions. The conditions are made favorable by two therapeutic means which are at our disposal. (1) Fixation to prevent trauma from motion at the seat of disease. (2)

The diminution or removal of superincumbent weight to prevent further crushing. Neither alone is sufficient, but both must be used and each pushed to its most efficient point.

The methods of treatment in general use may be roughly grouped under three headings:

- I. Treatment by simple recumbency.
- II. Treatment by jackets and braces.
- III. Treatment by jackets and braces combined with recumbency.

I. Treatment by simple recumbency.
Problems.—(1) To secure fixation. (2) To remove superincumbent weight.

Solution.—In the horizontal position, superincumbent weight is eliminated by gravity. Vertical contact at the seat of disease may be further prevented by hyperextending the spine at this region by means of pads placed under the deformity, making this the point of greatest upward support. Fixation is easily secured by the simple means to be described.

Application.—(1) The patient lies on the back on an oblong gaspice frame a little wider than the shoulders and a little longer than the body (Bradford frame). This frame is covered by two tightly stretched cloth covers, which leave an open space under the pelvis so that the child need not be removed from the frame for its daily needs, but the bedpan may be placed under the opening in the frame. At the sides of the spinal deformity are placed longitudinal pads made of folded sheets or pillow cases pressing upward and hyperextending the spine at the site of the disease. A folded towel passes around the pelvis and frame to hold the lower part of the body in place and crossed straps of webbing secure the chest and shoulders to the upper part of the frame. On this frame the child may be carried out of doors and transported from place to place. Should the case be extremely acute, traction downward on both legs and upward on the head may be added to the treatment, contributing both to fixation and the diminution of vertebral contact.

(B) An alternative to the gaspice frame is offered in the plaster of paris bed of Lorenz, which is useful where the nursing is not of the best, as it requires less nicety of adjustment than the padded bed frame.

The plaster shell is made by laying the patient on the face in a position of hyperextension and molding to the back ten or twelve sheets of crinoline gauze impregnated with plaster of paris, which cover the back of the head, the shoulders and the trunk as far as the middle of the buttocks. When this is dry, it may be trimmed along the lateral line of the body and forms practically the posterior half of a plaster jacket in which the patient lies with the spine hyperextended. (Its elaboration and modification by Wullstein is obviously effective but complicated.)

The advantage of the treatment by recumbency will be discussed later in contracting it with ambulatory methods.

Objections.—The treatment by recumbency is not an easy one to carry out for several months, and it is difficult to secure the co-operation of the less intelligent parents, especially when the children suffer but little pain and are able with a jacket or brace to walk about with perfect com-

fort. Children in bed require much more care and a certain amount of nursing, which it is often impossible for the poorer classes to give, and the confinement is at first irksome to the children who naturally wish to run about. But the chief objection which held in former years has been removed since we have learned that such treatment need not be carried on in the house, but can be pursued without any loss of outdoor life.

II. Ambulatory treatment. Treatment by jackets and braces.

Problems.—(1) To secure fixation. (2) To remove superincumbent weight.

Solution.—By means of plaster of paris jackets and braces the attempt is made to use the principle of leverage to diminish vertebral contact at the seat of disease. To do this implies a forward pressure on the deformity with a backward pull from the ends of the spine high up on the thorax and low down on the pelvis. In other words, to hold the spine hyperextended by pulling the thorax and pelvis back against a point of resistance furnished by the deformity. In this way the center of gravity of the body is carried backward and vertebral contact diminished. Fixation is furnished to a certain degree by this splinting.

Treatment by Plaster of Paris Jackets.—Plaster jackets are apparently superior to braces in general in the ambulatory treatment of the acute disease because they obtain a more rigid hold on the thorax than do braces for backward pull, they prevent side bending and rotation, thereby contributing to more efficient fixation, and they may be left on for many months at a time, thus allowing the quiet desirable for the establishment of ankylosis. It must be clearly recognized that they depend for efficiency upon maintaining a hyperextended position of the spine and not on pulling the thorax vertically up away from the pelvis and holding it there, as originally thought when they were first used. It is inefficient treatment to suspend the patient by the head, or head and arms, to apply a jacket in this position without any attempt to produce forward pressure by some other means at the site of deformity. In other words, one must use the principle of leverage. The plaster jacket is a plaster splint; it must be molded and shaped to the patient's contours, e. g., over the flanks, and a loose cylindrical tube of plaster applied in suspension is of no more use than a similar splint would be in a fractured leg.

It matters little by what particular method a jacket is applied, provided the principle of forward leverage is observed. The most efficient technic that I have ever seen is the second method of Calot as used by Calot, but in less skilled hands the method offers difficulty. The patient is suspended by the head, the jacket is applied in one sheet of crinoline impregnated by plaster, which is cut in rather an elaborate pattern. This is secured by a few circular turns and the proceeding is complete. All jackets include the shoulders and neck, and if the disease is high the head as well. Part of the front of the jacket is then removed opposite the deformity, a square trapdoor is cut over the kyphus and a layer of absorbent cotton an inch or two in thickness is laid on the back through the trapdoor. The trapdoor is then pushed back into place and fastened by turns of bandage. The patient is then kept in

a position of recumbency for several months. Under these circumstances one may look for improvement in the deformity and in some cases for practical obliteration of the kyphus.

A simple method which I have personally found most useful is as follows: The patient lies face downward on a strip of cloth less wide than the body stretched tight between the ends of a heavy gaspipe frame. This strip of cloth at the bottom of the frame is fastened to an adjustable bar so that it may be slackened or tightened. Beginning below, the jacket is applied as high as the middle of the deformity, which is heavily padded and is allowed to harden. The hammock of cloth is then slackened and the spine consequently hyperextended at the site of the deformity as the body arches down until it becomes slightly uncomfortable and the jacket is then completed, the hammock cut away above and below the jacket and pulled out from under the completed jacket. The patient then sits up, the shoulders are pulled back, and the jacket completed by incorporating the shoulders by turns of the bandage.

Forcible Correction by Plaster of Paris Jackets.—The method of obliterating the deformity of spinal tuberculosis by force and holding the improved position by plaster of paris jackets has been abandoned. The method which was identified with the name of Calot was not only out of accord with what we know of the pathology of bone tuberculosis, but was accompanied by too large a number of accidents and the ultimate results were not sufficiently good to warrant the risk of the procedure. The method, however, served a valuable purpose in showing us that it was safe to use a high degree of corrective force in our routine treatment than had formerly been employed and has left its impress on the treatment of the disease.

Treatment by Braces.—As supplementary or as alternative to the use of plaster of paris jackets, braces are used to carry out the same principle of hyperextending the spine at the site of disease by means of a lever pressing forward on the region of the deformity and pulling backward on the thorax and pelvis. To carry out this mechanical principle effectively by a brace it is clear that a rigid hold must be secured on the thorax by which to pull it back and that the skin over the region of the deformity, which is the fulcrum, must be able to endure the pressure necessary for effective leverage. As a matter of fact, it is impossible to secure a rigid hold on the thorax on account of the mobility of the ribs, and if it were possible the skin of the back could not endure the pressure necessary to secure an effective modification of intervertebral pressure by the use of the brace as a really effective lever. The brace cannot be regarded as effective even as the jacket in preventing intervertebral pressure in the upright position.

The Taylor back brace or anteroposterior spinal support consists of two steel uprights running the length of the spine in the line of the row of transverse processes ending above at about the level of the top of the scapulæ and below at the upper part of the pelvis. At the bottom is fastened a steel U, inverted to secure a hold on the pelvis. This brace is held in place by a cloth apron covering the front half of the body and

buckled to the brace by means of transverse straps. But without some form of rigid anterior chestpiece the brace is not effective to any degree. A simple and fairly efficient addition is secured by means of a flattened steel piece running the length of the sternum terminating above in two divergent arms reaching to the infraclavicular fossæ and below in two other arms running downward and backward across the lower ribs. By means of straps at the end of each arm a fair pull is secured on the thorax by fastening the straps to the brace over the shoulders and around the chest. Such a brace can only be regarded as in any way effective in disease at or below the middle dorsal region, above this a head piece being required. Such a head piece consists of an oval horizontal ring supporting chin and occiput connected with the brace by means of an adjustable upright post fastened to its upper part.

Comparison of Recumbent and Ambulatory Methods.—The mechanical conditions prevailing in ambulatory treatment are obviously far less favorable than in recumbency. In the horizontal position the body segment above the disease weighs nothing, so far as vertebral contact is concerned; in the erect position the upper segment, consisting of head, arms, shoulder girdle and thorax, weighs from twenty pounds upward, and this weight must be negated before we can approach the conditions of recumbency so far as intervertebral pressure is concerned. That this weight can be negated by leverage implies a rigid hold on the thorax and a transfer of this weight to the fulcrum (which must be borne by the skin over the seat of disease). It has been seen that this is not possible. One is therefore forced to the conclusion that ambulatory apparatus must necessarily be imperfect in mechanical efficiency when compared to the conditions in recumbency. There should be no hesitation in our minds as to the relative value of treatment by recumbency as contrasted with any treatment in which the patient is allowed to go about, and every case of spinal tuberculosis should be treated during the acute stage by recumbency. On the other hand, however, we must recognize the fact that this ideal is not always possible in practice and that many, if not most, of the patients in the outdoor department of a hospital in a large city must be treated by ambulatory methods. This is necessitated by the circumstances of the parents, which will not permit them to care for the children in bed for long periods, and we must recognize the fact that ambulatory methods carried out for two or three years will yield better results than recumbent treatment abandoned by the parents in disgust at the end of two or three months.

Plaster jackets are more efficient than braces when ambulatory treatment of the acute stage must be followed, and in the convalescent stage braces are preferable to jackets.

Treatment by recumbency is necessitated in all cases when the disease becomes painful, when abscess is present or threatened, when psoas contraction takes place, in cases of paralysis and when the general health fails.

With regard to complications a few words only are necessary.

Abscess we have learned to regard as a condition which is not to be touched so long as absorption is likely, and absorption is favored by efficient treatment of which recumbency is an essential part. The reason for not incising and evacuating abscesses is that their contents are nearly always sterile until opened, but that they become infected two or three weeks after opening, no matter how carefully they are dressed. One has then to deal with a mixed infection from that time onward. The disposition that even large abscesses have to absorb under favorable conditions is notable. Cervical and retro-pharyngeal abscesses connected with cervical disease will generally require incision. Mediastinal abscesses are dangerous and frequently suddenly fatal. I have seen one absorb under expectancy, but I have seen more than one case die even before the abscess was clearly recognized, and costo-transversectomy with evacuation is to be advised. Psoas abscess is best treated by recumbency and traction on the affected leg until it is evident that absorption will not occur. The mortality from operation in forty-nine cases operated upon at the Children's Hospital was 25 per cent. in cases operated on not over five years, and 50 per cent. in cases operated on between five and ten years previously. It is not definitely settled whether it is wiser to make incisions in the iliac fossa and loin, clean out as much pyogenic membrane as can be reached and drain through and through, or to make a small incision in the iliac fossa, wash out thoroughly, drain for twenty-four hours only, put on a jacket, and get the patient up upon the third or fourth day for drainage. My own experience with both methods, so far as it goes, favors the less severe operation, because it has seemed to me that these abscesses closed more quickly. In this conclusion I am happy to be confirmed by so able a surgeon as Dollinger, of Budapest, and with the aspiration of such abscesses I have had occasional success.

Paralysis.—Early paralysis is benefited, and sometimes very greatly, by the application of a hyperextension-jacket applied with more correction than is justifiable in any other condition, followed by a period of recumbency. It must be remembered that such paralysis tends very strongly toward recovery under any reasonable conditions of treatment, hence laminectomy is not to be lightly undertaken for its relief. In the severer cases it has proved in my hands at times a brilliant success and in others of no use.

The points that I would like to impress on you in closing are:

(1) Spinal tuberculosis is a very much more amenable affection under efficient modern treatment than it formerly was. The death rate is far lower, abscesses and paralysis are much less frequently seen, the deformity should decrease and not increase during treatment, and the prognosis is not unfavorable.

(2) Outdoor life day and night is essential to stimulate the process of repair.

(3) Recumbency fulfills the mechanical demands by removing wholly superincumbent weight, making fixation easy, and not constricting the chest. Jackets and braces all to the efficiency by recumbency. Ambulatory jackets and braces fulfill but imperfectly the mechanical de-

mands and must be recognized as means of treatment during the acute stage, second in efficiency to recumbency. Jackets and braces have their place in the treatment of all cases as soon as the acute stage is over and must in many instances constitute the sole treatment on account of circumstances of the patients.

Finally, I would call attention to the conclusion of a paper which I published some thirteen years ago, as presenting a point of view that I have seen no reason to change:

"Whether we wish to follow the best treatment or not may be a question, but if the writer's belief that treatment by recumbency, so prevalent in the early days of orthopedic surgery, will come again to the front if the real value of supporting apparatus is studied."

That a change in the point of view in this direction has occurred is in a measure true, but in America the ambulatory treatment of spinal tuberculosis is today being pursued to a far greater extent than its merit warrants and is bearing for its fruit many bad results, which would be avoided by the proper recognition of the value of recumbency.

SIXTH DISTRICT

E. P. MORROW, M. D., Collaborator.

The Canton Medical Society held its seventh annual meeting and banquet Thursday evening, January 21. Dr. H. W. Wiley, Chief of Bureau of Chemistry of Agricultural Department, Washington, D. C., delivered an address, subject: "Relation of the Medical Profession to the Pure Food and Drug Act."

At a meeting of the Richland County Medical Society held in February the following officers were elected for 1909: J. L. Stevens, President; A. C. Lee, Vice-President; H. Woltman, Secretary and Treasurer; M. J. Davis, Auxiliary Committeeman; C. G. Brown, A. H. McCullough and H. A. Kohler, Board of Censors; D. W. Pppard, Delegate.

The one hundred and forty-seventh session of the Union Medical Association of the Sixth Councilor District was held at the State Hospital, Massillon, February 9. The session opened at 10 a. m. with a clinic, consisting of material from the hospital and conducted by members of the staff. The first section, by E. C. Brown, was that of a case of Sydenham's chorea; two of Huntington's chorea described in 1872 as the "shakers;" one of multiple sclerosis with patches in the brain and spinal cord; four different types of locomotor ataxia. In the second section, Dr. O'Brien presented a variety of cases of paresis, four of the simple depressed type, four of the convulsion forms and five of the classical forms. The proportion in this institution is one woman

to seven men. In the third section Dr. Adair presented a variety of cases of mania (depressive insanity). The clinic throughout was helpful and interesting.

The secretary's report showed that three regular sessions were held, with an average attendance of 67. Last year the average was 90. Out of a total of 17 placed upon the program last year only two failed to respond. The treasurer's report showed that receipts for the year were \$88, and disbursements were \$140.25, with \$335.16 carried over from last year, leaving a balance on hand of \$282.91. It was suggested that each county treasurer collect the district dues at the time he collects the state dues. This would not only facilitate matters, but would also have a tendency toward getting new members for the district society.

In the past two years addresses have been given by men outside of the district who were specially qualified along certain lines. Some of these were for the profession only and others were for the general public. The results prove conclusively that the medical profession wants the co-operation of the general public in matters of sanitation, pure food and drugs, questions of public health, etc.; they must be enlightened along these lines. On the other hand, there is a large proportion of medical men in every community who do not belong to any society, much less attend one. In 1908, 8240 doctors were registered in the state (all schools), and about 3970 belong to the State Society and about 650 attended the state meeting, or about 8 per cent. of all in the state. In the sixth district we have about 417 belonging to the component county societies; 216, or 51 per cent., belong to the district society, and last year an average of 67, or 31 per cent., attended the meetings. Stark county has about 225 doctors; 100, or 49 per cent., belong to the local society, and about 38 attend the meetings, or 17 per cent. of all in the county. Summit county has about 138 doctors; 92, or 67 per cent., belong to the local society, and about 34, or 37 per cent., attend the meetings, or 25 per cent. of all in the county. Mahoning county has about 150 doctors; 60, or 40 per cent., belong to the county society, and 20, or 34 per cent., attend the meetings, or 14 per cent. of all in the county.

By these figures we observe that a larger number belong to the district than either state or county societies, but in the attendance the county leads; then the district and last the state.

The afternoon meeting was open to the public. A large company assembled to hear the addresses. The first was by Dr. Martin Friedrich, health

officer for the city of Cleveland. His subject was the "Mission of the Medical Profession in the Schoolroom." He said one-fifth of our population is engaged in teaching and learning. In former years more attention was given to the proper construction of houses, offices, factories, etc., than to the schoolroom, where our children must spend so much of their time. Every school building should be twice its height, away from other buildings; windows should extend from within $3\frac{1}{2}$ feet from the floor to within six inches of the ceiling, and not covered by curtains. The light should come in from the left or back of the child; the width of the room should be twice the height of the windows, starting from the floor; the fresh air inlets should be placed at the bottom and the foul air outlets should be placed at the top. There ought not to be over seven volumes of carbonic acid gas in a room. Relative to the control of communicable disease only medical men should have supervision.

H. C. Eyman, superintendent of the State Hospital for the Insane, Massillon, gave an address on "The Non-Restraint Method in the Treatment of the Insane." He first gave a brief resume of the evolution of the methods in the management of the insane from its earliest history down to the present. He exhibited a strong crib, a large chair and a big, heavy leather straight jacket as specimens of some of the ways they used to resort to in restraining the vicious. As a substitute, the doctor emphasized employment and diversion as better ways in most cases. Treat an insane person as if he were sane. Look through the lunatic to find the man, rather than through the man to find the lunatic. The teeth and eyes should not be overlooked in considering causes.

W. M. McClellan, the retiring president, made a few remarks on "Medical Organization." He emphasized the importance of the doctors taking a more active part in society work, both for their own good and that of the community. He said that one of our great missions is to promulgate prophylaxis; another is to see that public health officials pay more attention to sanitation and less to politics.

The bill on optometry now pending before the state legislature was taken up and considered, and a few sensible telling resolutions were adopted and sent out to the legislators of the respective counties.

A vote of thanks was tendered to Drs. Friederich and Eyman for their splendid addresses.

The following officers were elected for the ensuing year: S. P. Wise, Millersburg, President;

J. H. Seiler, of Akron, re-elected Secretary; H. P. Pomerene, Canton, was elected Treasurer.

The next meeting will be held at Canton on the second Tuesday of August.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The regular meeting of the Tuscarawas County Medical Society was held at New Philadelphia February 2, and was well attended.

Owing to the great interest being taken in the post-graduate work as outlined by the A. M. S., the by-laws were amended so that regular monthly meetings will be held in the future and the post-graduate work will be taken up.

Wm. E. Lower, of Cleveland, read a very interesting paper on "The Present Status of Prostatic Surgery." The paper was an excellent exposition of this important subject and elicited a very spirited discussion. Dr. Lower said in part: That the cystoscope could be used to clear up diagnoses of prostatic hypertrophy, but that it should not be used unless passed readily. He condemned the careless use of catheters, that the average catheter life is but four years. Prostatectomy is the rational treatment. The mortality is about 5 per cent. in the hands of competent operators. Operation should not be done at time of complete retention. Supra-pubic route perhaps the best, although perineal route has slightly lower mortality rate.

The papers, "Treatment of Cystitis," by C. D. Kurtz, and "Physiologic and Therapeutic Action of Urinary Antiseptics and Sedatives," by D. S. Shawecker, of Canal Dover, were ably presented and brought out a spirited discussion as to the relative merits of salol and hexamethylenetetramine as urinary antiseptics.

Following the above program the visiting members were entertained at dinner by the members of the society. At 7 p. m. a "round table" on venereal diseases was conducted by C. U. Paterson.

EIGHTH DISTRICT

CHAS. H. HIGGINS, M. D., Collaborator.

The February meeting of the Muskingum County Medical Society was held Thursday evening, February 11, 1909. Report of case, H. T. Sutton, "Successful Resection of Bowel Gangrenous and Due to Appendicitis." Report of case, by J. R. Lyon, "Otitis Media Purulent Acuta." Report of case, by W. F. Sealover, "Monstrosity," with specimen.

The regular monthly meeting of the Muskingum County Medical Society was held February 11. The following cases were reported:

H. T. Sutton reported a case of "Resection of the Cecum" in an operation for gangrenous appendicitis. Patient had been brought to the hospital from Noble county for operation, but upon reaching the hospital was in such an extreme condition that Dr. Sutton operated without the hope of benefiting the patient and against the advice of the attending physician. Two feet of the ileum and six inches of the ascending colon were in a gangrenous condition and were removed. A lateral anastomosis was made and the patient made an uninterrupted and rapid recovery. Operating was done August 13 last, and at present time the patient is enjoying perfect health.

W. F. Sealover presented a specimen of an anencephalic monstrosity which he had delivered a few days previously. The trunk was well developed, the shoulders large, the head was rudimentary and rested directly with shoulders, without neck. The face pointed upward, prominent eyes. The spinal cord began at a point a little below the shoulders. The labor was not difficult and the puerperium was normal.

J. R. Lyon reported a case of acute purulent otitis media with cerebral complication.

A. E. Walters, formerly of Cumberland, and recently located in Zanesville was admitted to membership.

NINTH DISTRICT

S. P. PETTER, M. D., Collaborator.

The Hempstead Memorial Academy of Medicine held its initial meeting of the post-graduate course at Carnegie Library January 21, with nineteen members present. Dr. Fitch lectured on the anatomy of the heart, Dr. Fitch on the physiology of the heart. Dr. Flint Kline acted as quiz master. Fifteen minutes were allowed to each lecturer and thirty minutes for quiz. Meetings are to be held every Thursday evening, beginning promptly at 8:15, and to close at 9:15. Subject and lectures to be named two weeks in advance.

January 28.—Subject: "The Lungs." Lectures: Dr. Bundt, "Anatomy of the Lungs;" Dr. Williams, "Physiology of the Lungs." Dr. Robe, quiz master.

February 4.—Subject: "The Liver." Lectures: Dr. Allard, "Anatomy of the Liver;" O. R. Mickelthwait, "Physiology of the Liver." Dr. Locke, quiz master.

February 11.—Subject: "The Kidney." Lec-

tures: Dr. Ray, "Anatomy of the Kidney;" Dr. Moore, "Physiology of the Kidney." Dr. Schinmann, quiz master.

February 18.—Subject: "The Uterus and Appendages." Lectures: Dr. Rardin, "Anatomy of the Uterus;" Dr. Jordan, "Physiology of the Uterus." Dr. Le Baron, quiz master.

February 25.—Subject: "The Pancreas." Lectures: Dr. Knowles, "Anatomy of the Pancreas;" Dr. McKerrihan, "Physiology of the Pancreas." Dr. Obrist, quiz master.

March 4.—Subject: "The Stomach." Lectures: Dr. Gault, "Anatomy of the Stomach;" Dr. McCall, "Physiology of the Stomach." Dr. Hutchins, quiz master.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

The Delaware County Medical Society met February 5 at 8 p. m. A post-graduate course was planned and the first program was carried out as follows: A. J. Willey made a dissection of the heart, demonstrating the anatomy. C. H. Chidester gave a lecture on "Myocarditis." F. L. Gage talked on the subject of "Pericarditis." At the next meeting the physiology of the heart will be taken up.

The Fairfield County Medical Society met in regular session February 16. The attendance was good.

G. O. Beery, Lancaster, presented the following paper, "The Pathology, Differential Diagnosis and Treatment of Pneumonia." Dr. Beery laid emphasis to the fact that the disease is self-limited, and that a generous supply of fresh air was imperative in the successful treatment of the malady. The paper was well discussed.

A communication from the State Committee on Public Policy and Legislation relative to the "Optometry bill" was read, and a committee appointed to see the county representative and request that he use his influence in defeating the "bill."

The application of A. L. Guthrie for membership was received on transfer from Hamilton county. The applications of Drs. O'Grady and Lantz were received for active membership.

The regular meeting of the Columbus Academy of Medicine was held Monday evening, February 1.

F. F. Lawrence detailed the history and presented the specimens of a bilateral tubal pregnancy occurring in a middle-aged female upon

whom he had recently operated. The report was discussed by Frank Warner.

REGULAR PROGRAM.

"Psychotherapy and Rest," by D. N. Kinsman.

Discussion was opened by Earl Gaver.

Dr. Gaver said: To be serious in the discussion of this paper, the subject of "Psychotherapy," I wish to say that Dr. Kinsman's paper is timely in view of a condition that is confronting the public to-day. We are being besieged by literature, not only emanating from the minds of the medical profession, but also from the minds of the clergy and professional psychologist as well. This condition that I speak of deserves our most careful attention, because the writings of these people are influencing the minds of the public to a very great extent. Whatever stand the medical profession takes in regard to this new movement, particularly the Emanuel Movement, should be given careful consideration. We should not go *pell mell* into this method of treating disease, because if we do I can see disaster in such a plan; for this reason, that the Emanuel method is not limited as far as its uses are concerned. It can be used by the best, the most highly educated clergy, or it may be used by the worst; so long as it remains in the hands of such as Dr. Wooster or Gladden all well and good, but just as soon as it goes out of the hands of such able men there is danger, and it seems to me a chance of lowering the practice to that common level that has been practiced upon the people by quacks and others from time to time.

I remember an experience in my boyhood days of seeing and hearing an exhorter. He was not an ordinary minister he was an exhorter, who dropped into the community and started what is known as one of the "big meetings." He soon worked up the people to a high nervous tension, especially those who were emotional and of a neurotic temperament. Now it is as Dr. Kinsman said in his paper, suggestions can cure diseases, I do believe that firmly and faithfully, and I believe it can also produce disease.

There is one phase of psychotherapy that I wish to speak of, and that is the cases to which it is applicable. The field is only applicable to the functional diseases, and as far as my knowledge goes it is most applicable to the hysterical case and that of the neurasthenic, and it seems to me that psychotherapy as applied by ordinary suggestion or persuasion is the best, except perhaps in some cases where hypnotherapy can be applied as advocated by Dr. Donnelly. We have used this hypnotic plan in the hospital for some time, and I am using it at present on two cases. The plan is simply a condition where the patient is placed upon a couch, the eyes are closed, some monotonous sound is produced, such as the telling of a story, the starting of the wall plate or anything that produces a slow monotonous sound. You can in this way produce the state of hypnosis or the

condition that exists between the primary conscious state that they are in and the condition of hypnosis. I think that this is a very useful aid to psychotherapy.

The paper was further discussed by Drs. Harding, Warner, Clemmer, Stockton, Upham and Stage.

Regular meeting of the Columbus Academy of Medicine, February 15.

C. F. Bowen reported the following case, and presented the X-Ray photographs:

Nine months ago a child, ten years old, told her mother that she had swallowed a brass-headed upholstering tack. She said that she had felt it scratch her throat as it went down. There was no coughing, strangling or irritation of any kind. The family physician supposed that it had entered the stomach, and to this end prescribed bread, potatoes and bananas. The stools were watched for a period of six weeks, yet the tack went undiscovered.

The first four months no symptoms developed. About this time the child developed an evening temperature, with a slight elevation in the pulse rate, and profuse night sweats. The symptoms gradually increased in severity until the end of nine months when the evening temperature reached 104½; the pulse 140. The child became greatly emaciated.

The child had been examined by a number of prominent physicians, one being an expert on tuberculosis. They were of one accord in believing that it was impossible for the tack to have entered the lung, and did not think that the symptom complex resulted from this cause. There had been some vomiting, and for this reason several physicians entertained the idea that the tack had become imbedded in the wall of the stomach and that the irritation had excited an abscess.

J. W. Hughey, of Washington C. H., referred the case to me for X-Ray examination. Upon examining the plate, the tack was found in the right bronchus with the head of the tack pointing downward. The tack was removed in the following manner: A tracheotomy was made by J. F. Baldwin in the operating room of Grant hospital and the child sent downstairs to the X-Ray laboratory. The child was placed upon a table so arranged that the X-Ray tube could be placed underneath. With the child in this position, and the X-Rays shining through the child's chest, the tack could be readily seen. A pair of forceps was now passed through the tracheotomy incision down the trachea and guided by means of the X-Ray and fluoroscope

toward the tack, which was readily grasped and removed. The passing for the forceps and removal of tack required one-half minute.

The child left the hospital in five days; the tracheotomy wound had healed, and the pulse and temperature were normal. So far as I am able to discover, this is the first time that a foreign body has been removed from the trachea or bronchus by means of a pair of forceps guided toward the foreign body under control of the fluoroscope.

Frank Warner presented a child upon whom he had operated for a congenital dislocation of the hip. He explained the operative technique, and described the method of immobilization.

Demonstration by Lantern Slides of Practical Points in the Anatomy and Pathology of the Nasal Accessory Cavities, J. E. Brown and C. F. Bowen; discussion, H. W. Whitaker, W. K. Rogers, C. S. Means, G. T. Harding, J. B. Alcorn, C. W. McGavran and F. L. Stillman. Closed by Drs. Brown and Bowen.

G. C. Schaeffer, chairman of the City Pure Milk Commission, spoke of the urgent need of funds to further continue the important work of the commission. On motion the trustees of the academy were instructed to loan the commission the sum of \$100, without interest, for so long a period as necessary to meet emergencies, and to be ultimately repaid by the commission.

A communication from the State Committee on Public Policy and Legislation relative to the "Optometry Bill," now before the Legislature, was read. A resolution condemning the bill was introduced, and on motion was unanimously adopted. The secretary was instructed to mail a copy of the resolution to each representative and the senator from Franklin county, with the request that they use their influence in the defeat of the measure.

NEWS NOTES

R. L. Bell, of Springfield, has been appointed to succeed R. C. Rind on the Board of Health.

Will Ultes, of Springfield, has been appointed surgeon to the police and fire departments, to succeed A. B. Smith, resigned.

D. K. Gotwald and J. A. Link, of Springfield, are in Vienna taking up some post-graduate work.

Gordon McKim, of Springfield, will leave in March to take up some post-graduate work in genito-urinary diseases at Baltimore.

R. C. Rind, of Springfield, will return the 1st

of March from Florida, where he was forced to go as a result of failing health.

The Obstetrical Society of Cincinnati, at its annual election, chose the following officers: President, L. S. Colter; Vice-President, J. W. Rowe; Secretary, John Landis; Treasurer, Ambrose Johnson; Corresponding Secretary, E. S. McKee.

"Harelip and Heredity" was the subject of a report to the Obstetrical Society of Cincinnati at its February meeting by A. G. Drury. The doctor reported where two cases occurred in one family under his observation and mentioned that T. A. Reamy, of Cincinnati, had told him that he had a family in his practice where there had been six children all with harelips. J. W. Carpenter reported an instance in her practice where a father and child in the same family had harelip. L. S. Colter reported two cases in the same family. Ambrose Johnson reported to the Cincinnati Obstetrical Society and presented the specimen where he had removed the pregnant uterus for fibroid. The woman had been married fifteen years and never been pregnant and was but a few days over time. The pregnancy was not suspected till after the operation. An interesting discussion was elicited as to the possibility in this particular case of enucleating the tumor without interrupting the pregnancy.

Medical Department of Western Reserve University, Cleveland, Ohio, gives advance notice of requirements for entrance to become effective 1910-11.

The Medical Department of Western Reserve University was one of the pioneers in demanding some college work for entrance. In 1898 it announced that, beginning in October, 1901, the completion of the Junior year would be required for entrance. In the eight classes which have entered since 1901, an average of 86 per cent. of the matriculates have either held a bachelor's degree on entering or have obtained it at the end of the first medical year.

In May, 1908, the faculty unanimously voted to recommend a further advance in entrance requirements to the point of requiring a degree for unconditional entrance, but to admit conditionally a man who had completed the Junior year in a standard college (conditioned on the degree being granted by the college from which he had come before his entering the Junior year in this Medical Department). In November, 1908, this vote was unanimously reaffirmed, and on December 17, 1908, the Board of Trustees of Western Reserve

University voted that beginning with the academic year 1910-11 (i. e., in October, 1910), the following requirements for entrance to the Medical Department of Western Reserve University shall be in force:

I. TIME REQUIREMENT.

1. The requirement for *unconditional* entrance to the Medical Department of Western Reserve University shall be graduation from an approved college or scientific school granting the degree of A. B., B. S., Ph. B., Litt. B., (or equivalent) following the completion of a course of at least three collegiate years, and including all the subject requirements enumerated under II.

2. *Conditional* entrance will be granted upon the completion of the work of the Junior year in the course of an approved college or scientific school, enforcing a four year course, leading to the degree of A. B., B. S., Ph. B., Litt. B. (or equivalent degree), including the subject requirements enumerated under II, conditioned upon the student obtaining a baccalaureate degree before he enters the third year in the Medical Department in the Medical Department of Western Reserve University.

3. Students who have obtained their academic training otherwise than in institutions conferring the above degrees (for instance, at foreign institutions of collegiate standing), may be admitted on presenting evidence, by acceptable credentials, or by examination, showing that their education is fully equivalent to that implied by a degree from an approved college or scientific school, including the subjects enumerated under II.

II. SUBJECT REQUIREMENTS.

All candidates for admission under I must show by examinations, or by acceptable credentials, that they possess such knowledge of Inorganic Chemistry, Physics, Biology and Latin, as may be obtained by satisfactory completion of the following courses:

A. Inorganic Chemistry, including Qualitative Analysis, as represented by a course containing at least five actual hours per week through one collegiate year, of which at least one-third shall be laboratory work.

B. Physics as represented by a course of at least three actual hours per week for one-half collegiate year, of which at least one-third shall be laboratory work.

C. Biology (Botany or Zoology or a combination of these), as represented by a course of at least three actual hours per week for one-half collegiate year, of which at least one-third shall be laboratory work.

D. Latin of at least one year's work, as repre-

sented by Latin grammar and the reading of four books of Caesar, or equivalent.

Conditional entrance, however, may be granted to a student deficient in all of one of the requirements A, B, C and D, or in part of any two of them; but all such conditions shall be removed before the student shall be allowed to enter the second year class as a regular student.

The faculty of the Medical Department of Western Reserve University, therefore, gives notice that beginning in October, 1910, the foregoing requirements will be in force.

B. L. MILLIKIN, *Dean*.

F. C. WAITE, *Secretary*.

Cleveland, Ohio, Dec. 18, 1908.

At the present time the following medical colleges only have in force requirements for entrance equal to that of Western Reserve. In each case certain specific subject requirements are also enforced:

Johns Hopkins Medical School, degree; Harvard Medical School, degree (with exceptions by special faculty vote); Cornell Medical School, degree (or seniors in absentia and others, who show by examination that they are able "to profit by the instruction"); Medical Department, Western Reserve University, completion of junior year in a standard college.

NEXT ANNUAL MEETING.

The Committee of Arrangements for the next annual meeting in Cincinnati are working enthusiastically and report excellent progress in their preparations. All of the meetings will be held in the beautiful new Hotel Sinton, which has accommodations for all of the Sections under the one roof. This will make it very much more convenient than usual, and enable the members to reach the meeting with the least possible effort. Special rates will probably be made, so that a large number will find it expedient to stay at the hotel.

The various programs are nearly completed, and already promise in all departments an unusually interesting number of papers. A preliminary program will appear next month.

JURY DISAGREED—CRIMINAL CASE AGAINST DR. A. H. SHAFFER TO BE TRIED AGAIN.

After deliberating nine and one-half hours the jury in the case of Dr. A. H. Shaeffer, of Circleville, who was tried on an indictment charging him with having caused the death of Hazel Graves by the use of an instrument to produce a miscarriage, was unable to agree and was discharged Thursday at midnight by Judge Carpenter.

It is understood that on the earlier ballots seven

were for conviction and five for acquittal, and that later it stood six for conviction and six for acquittal.

It is learned from an authoritative source that Dr. Shaeffer will be tried again before the case of Edward Lynch, who was indicted for being a party to the alleged crime, is heard.

The efforts to pass an optometry bill in Pennsylvania met with failure. The Committee on Public Health and Sanitation gave a public hearing at which a number of prominent physicians, and several opticians of the better class, spoke against the measure. Only one optician appeared to champion it. The committee reported adversely and the bill was dropped.

MARRIAGES

Charles S. Hamilton to Mrs. Elizabeth Loving Brown, both of Columbus, January 21.

William A. Knowlton, Independence, Ohio, to miss Effie M. Dyer, of Cleveland, January 27.

Webb J. Kelly, Piqua, Ohio, to Miss Viola Coppess Smith, of La Prairie, Ill., February 4.

DEATHS

Constantine Mart, Eclectic Medical Institute, Cincinnati, 1858, died at his home in Hamilton, January 28, from senile debility, aged 76.

Moses Jones, Kentucky School of Medicine, 1899, Starling Medical College, 1895, died at his home in South Wellston, February 2, from tuberculosis, aged 36.

Frank G. Taylor, Eclectic Medical Institute, Cincinnati, 1875, died at his home in Renoyldsburg, January 29, from nephritis, aged 57.

John H. W. Pomeroy, University of Wooster, 1888, died at his home in Kipton, January 20, from appendicitis, aged 44.

Joseph H. Stonestreet, College Physicians and Surgeons, Baltimore, 1885, died at his home in Barnesville, January 13, from pneumonia, aged 48.

D. W. Callihan (long practice act), died at his home in Gustavus, January 13, from cerebral hemorrhage.

Merritt Moses Ayers, M. D., University of Michigan, 1894, located at Ohio City, Ohio, died at the home of his brother, Wauseon, Ohio, February 16, 1909, from perforating ulcer of the Duodenum, age 41, member of the American Medical Association, Ohio State Society.

NOTICE.

Index for Volume IV was omitted by mistake in our December number, and is printed below. Reprints of the same for binding with the 1908 issues of the JOURNAL will be furnished on request.

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VOL. V

APRIL 15, 1909

No. 4

ORIGINAL ARTICLES

SYMPOSIUM ON HEADACHE

HEADACHE FROM A NEUROLOGICAL STANDPOINT.

WALTER B. LAFFER, M. D.,
Cleveland,

Associate Professor of Nervous and Mental Diseases, Cleveland College of Physicians and Surgeons; Visiting Neurologist to Cleveland City Hospital, Mt. Sinai Hospital and St. Clair Hospital.

[Read before the Ohio State Medical Association.]

Whatever the cause of the headache it must manifest itself by changes produced in the sensory nervous system,

When we reflect that eight cranial nerves and the sympathetic system send filaments to the cerebral meninges, one can see the possibility for the production of pain in the head.

The fifth or trifacial is the only one that goes to the dura, arachnoid and pia. Its prime division, the ophthalmic also supplies the eye. Neuralgia then may originate or be reflected anywhere over the distribution of the fifth nerve, including also the first and second cervical segment. It may be useful in explaining an involvement of the fifth nerve with pain in the head in cervical neuritis or cervical meningitis to remember that the trifacial has spinal filaments extending as low as the second cervical nerve roots.

The pneumogastric and trigeminal nerves are at the foundation of most headaches. The cerebral cortex itself, at least on the surface, is insensitive as shown by a number of observations, but especially by one reported by Edinger, where a child after recovering from a trephining operation, continued to play with its toys while the surgeon thrust a knife blade repeatedly deep into the brain substance in his endeavor to open the brain abscess that had been diagnosed.

Edinger says that so far as research shows that the irritation of a sensory nerve, its ganglion or its root produces the pain. We are not prepared to show that a disturbance of the intercerebral portion of the nerve root produces pain, but it is not impossible. In spite of the fact that much research has been done we have not observed distinct pain in the path of individual nerves after a lesion of the central tract.

No area in the cerebral cortex has yet been found in which the trigeminal nerve is alone present. Irritation of such a region must, under some circumstances, produce pain in the area transversed by this nerve.

On surveying this path we conclude that isolated irritative symptoms are practically communicated only from the peripheral area of distribution of the nerve and thence to the supposed cortical field of the same. Many believe that it is at present absolutely unjustifiable to assume that headache with real pain originates in the cortex.

If we accept this view there only remains the explanation that somewhere in the cutaneous or dural branches which supply the attacked area there is a pathological causative process.

Amyl nitrite inhalations show us that hyperemia of the dura may produce headache, as may also local anemia due to pressure. We know that the causative agents that produce headache do so by irritating the dural nerves and perhaps also the pia-arachnoid nerves. Pain sensation is of course conveyed through the brain.

It is well known that headaches may be due to various causes, but we don't understand just how the nerve is irritated so as to produce the sensation of pain. Perhaps most forms of headache may be attributed to anemia or hyperemia of the nerve.

Pain in the head is a frequent symptom of a great variety of diseases of the nervous system, both functional and organic. Many headaches are not caused by severe general affections, for most

perfectly healthy persons suffer occasionally from headaches of short duration, but of marked intensity, if they undergo unusual mental or bodily fatigue, especially if they don't rest after severe exertion. Some have headache after remaining up all night and others after excesses of any kind. Others have headache if awakened suddenly. Intense odors will cause some to have headaches. Mental or physical work before breakfast, while stomach is empty, cause others to be afflicted.

But very rarely, if ever, should we consider headache as an independent trouble and not as a symptom. Charcot, however, considered the headache of adolescence (cephalea adolescentium) as a clinical entity.

Usually some disease, loss of sleep, excessive mental or physical work, especially in a close, hot room, near a gas or oil lamp, may be found to be the cause.

Toxic agents frequently cause headache by their action on the brain, meninges, and cranial nerves. Chief among these are alcohol, nicotine, metallic poisons such as lead, toxicoinfectious agents and certain chemicals; gastrointestinal autointoxication and changes in metabolism as seen in diabetes, eclampsia, acetonuria, uremia, etc., are common causes.

Caries or periostitis of the cranial bones due to syphilis, tuberculosis, phosphorus, mercury, or trauma often cause headache.

Many headaches associated with infections are thought to be due to a meningismus, but this condition as well as Quincke's meningitis serosa is crumbling under foot due to the bacteriological and cell findings in the cerebrospinal fluid obtained by lumbar puncture.

Meningitis whether purulent, tubercular, syphilitic or serous is a frequent cause of severe headache.

The indurative headache, as Edinger says, is one of the most frequent due to organic disease, and one that seem to be almost unknown to the majority of physicians. Almost invariably the affection is mistaken for migraine or an allied condition. They differ from migraine by the absence of aura, nausea, vomiting and by their following exposure of the head to cold. They come on later in life, have not the hereditary character, and are recognized by the sensitive indurated spots on the scalp, and where the muscles are inserted to occiput and vertebra as well as by the "rheumatic nodules" that may be found elsewhere on the body.

Then we have the sufferer from so-called "habitual headache" which title probably but shows our ignorance. This headache may be periodic,

recurring at regular or irregular intervals, varying greatly in duration and intensity. It may often be very severe and cause the victim to have a senile or hypochondriac look.

A very large number of headaches are associated with the so-called explosive neuroses such as migraine, epilepsy and hysteria which have other striking and suggestive symptoms in common.

Migraine which is often classed among the neuroses is one of the most frequent causes of headache in its most terrible form. This disease shows itself to be hereditary, chiefly in the female line, in about 95 per cent. of the cases. It manifests itself in childhood, often as cyclic vomiting especially in children of the lymphatic diathesis. Its victims are often spontaneously relieved of their torture after their fiftieth or sixtieth year.

The cause of the trouble is not known, but much speaks for a vasomotor disturbance.

Moebius distinguishes idiopathic and symptomatic forms of migraine and notes the frequent coincidence of it and vascular degeneration, especially in the aged, and concludes that migraine may be the cause of organic brain disease.

Symptomatic migraine may occur in tabes, general paralysis of the insane and with cerebral tumors.

Idiopathic migraine has as its chief and often only symptom, a periodic intense headache, associated with gastric disturbances, anorexia, nausea, vomiting, etc. It lasts from a few hours to a few days. Patient usually has some prodromal signs or aura such as a dimness of vision, dizziness, a feeling of pressure in head, scintillating or central scotoma, fortification spectra, zigzag appearance and heminopsia. Heminopsia is a common aura in migraine and it is not rare to see transitory aphasia, hemiparesis, hemianesthesia and paresthesia, also vascular changes in one-half the face or one side of the body. In rare cases the heminopsia, aphasia and hemiparesis become permanent perhaps as a result of vascular spasm causing cell death.

Galezowski reported two cases of permanent heminopsia from arterial thrombosis or embolism in young subjects occurring in migraine attacks.

Then, too, we see migraine, transient ophthalmoplegia externa, sometimes called recurrent paralysis of ocular nerves or ophthalmoregic migraine; the last term is perhaps bad for the headache is not exactly the type usually found in migraine. The pain is not necessarily unilateral and the position of maximum intensity is variable, being sometimes occipital, retro-oculars temporo-frontal. Few cases die, but Gübler has described a plastic exudation in the basal subarachnoid

space in one case, in which fibrous adhesions were also present around the origin of the third nerve. In other cases a fibroma or chondro-fibroma involving the ocular nerves, has been described. No nuclear lesions have ever been noted.

Visual illusions preceding attacks of migraine have been reported by S. Weir Mitchell, De Schweintz and J. K. Mitchell. The last mentioned reports a remarkable example of visual illusion which report I will quote in full:

"A man who when he was going to have an attack first began to lose his sight, when this symptom appears he goes to bed and the attack pursues a regular course. There is first a vision of a tiny dwarf, half an inch high, appearing at a great distance; he gradually approaches, becoming larger and larger, until he assumes the form of a gigantic gladiator with bared limbs, and armed with a club. During his approach the pain in the head is constantly worse, beginning with fleeting painful sensations of varied location, sometimes parietal, sometimes vertical; never occipital, frontal or supraorbital. When the giant comes close he strikes the patient repeatedly on the head with the club, producing excruciating and terrible pain, which increases with each stroke until there is loss of consciousness; and then violent convulsions usually follow. In the convulsions he is drawn backward, arching the body upward, and even resting on the head and heels. The time from the first appearance of the dwarf until he strikes the patient's head has been as much as eight hours, but is usually somewhat less. At first the attack lasted twenty-four hours, but have now shortened to about eight hours; the worst pain and convulsive seizures last from fifteen to forty minutes. Afterwards the teeth feel on edge; he is somewhat sore all over, but otherwise pretty well. There was an error of refraction to be found in one eye, but its complete correction did not prevent the attacks.

The attacks never occurred during the winter, but only from May to December, at first five months apart, and then shortened gradually to about a week."

Guide reports six cases in which hemicrania attacks were preceded by mental symptoms. The hemicranic attacks were typical, and the premonitory mental symptoms came on one or more days before hemicrania. The patients showed a sudden change of mood, either of the nature of an excitement with talkativeness, busy activity and jocularity or a depression with irritability and reclusiveness.

Head says that in migraine the pain follows areas wholly different from the fixed areas of superficial tenderness seen in referred headaches.

Migraine pain is associated with intense deep tenderness that one can map with percussion and movements of the head or anything that produces it (laughing, going upstairs, etc.), causes an increase of the pain in migraine, while it is relieved by pressure.

The relation of migraine to epilepsy has been emphasized by Liveing, Moebius, Gowers, Spiller and others. It is often associated with hysteria and neurasthenia.

The pain is usually dull and mild at the start, but gradually increases in intensity often to an unbearable degree. It is not always limited to one side of the head as was thought when given the name of "hemicrania," but may be frontal, occipital or temporal, and even during an attack shift from one region to another. But rarely are painful spots to be found over the branches of the fifth nerve, but often we find the superior sympathetic ganglion tender.

Putman believes there is a class of cases which stand in relation both to the condition known as migraine and simple neuralgias.

Neuralgic headaches (*tic douloureux*), are among the most distressing and often unrecognized headaches and may be described as a spontaneous intense pain arising periodically and radiating along the course of a nerve and its ramification, associated with sensitiveness of the nerve. Trigeminal and occipital neuralgias are the most to be considered here.

In some cases the condition is a ganglionitis and a neuritis. The area supplied by the nerve affected by the neuralgia is excessively sensitive to cold objects. One should look for a cause to the eyes, nose, throat, sinuses, ears, teeth, unerupted molars, cervical rib, etc. One should always examine the exit of nerves and muscles of neck at the point of insertion into occipital bone, also the cervical vertebral column. The pupils should be examined as to size and reflex reaction.

Headaches with exophthalmic goitre are frequent and are not to be differentiated in their origin or manifestations from the headache of neurasthenia, and are nearly always throbbing in character.

Headache may be a pronounced symptom of encephalitis of the Wernicke, Strümpell and other types.

Circulatory changes within the skull due to local or general circulatory conditions are frequent causes of headache. These changes may either be anemic or hyperemic.

Hyperemia causes a severe pounding or pulsating headache often associated with dizziness, tinnitus, floating specks before the eyes and red-

ness of face and conjunctiva. This may be exemplified by the inhalation of amyl nitrite.

Headache in some cases is due to a primary vasomotor disturbance and with it we have, intermittently, a flushed hot face with a frequent pulse. This form of headache has been called cephalalgia vasomotorea and it may be associated with other vasomotor disturbances such as urticaria.

The exciting cause may be brain fatigue, emotionalism, alcohol, smoking or cranial trauma. As it is a symptom seen with traumatic neuroses some attacks are brought on by thunderstorms. There may be local redness of the painful area. Hyperemia of head of venous origin is a frequent source of severe headache, due to disease of heart or lungs. The cranial congestion from frequent coughing is another factor. Bending, straining, sneezing and coughing makes the hyperemic headache worse.

The anemic headache as seen with chlorosis, hemorrhage and severe anemias may be located in sagittal, frontal, ocular and temporal regions; or even over whole head. Any act that causes a rush of blood to the head or the nitrite relieves this headache.

Arteriosclerosis of brain may cause headache. General arteriosclerosis may be absent while cerebral arteriosclerosis is present. The cardinal symptoms are increased blood pressure, thickened peripheral arteries, hypertrophy of left ventricle with accentuated second sound over aorta. Headache, dizziness, marked fatigability and exhaustion with failure of memory point to cerebral arteriosclerosis. Wilton and Paul found headache present in but twenty-five per cent of cases, while healthy young and middle aged individuals have a larger percentage of headaches.

Ophthalmoscopic examination shows condition of cerebral vessels—indentation of veins by the stiff arteries, etc. The head pain may be due to the irritation of the stiff vessels on the meninges.

Binswanger has pictured a chronic progressive subcortical encephalitis due to arteriosclerosis.

Hydrocephalus, interna and externa, acute, subacute and chronic, caused by concussion of brain (Quinke, Walton, Edes) and by meningitis; or to a tumor of either the brain or of the cervical or dorsal cord (Putnam) may cause severe headache by compression of brain and nerves. Associated with this we may have papillitis of the optic nerve.

Handwerck and others have described cases of edema of optic discs and brain associated with angioneurotic edema of other parts.

Concussion of brain (comotic cerebro), may

cause headache which will be accompanied by symptoms of shock.

Cerebral hemorrhage, or arterial or sinus thrombosis, especially if large, may in various ways cause severe headache.

Syphilitic disease of brain, vessels, meninges and bone is a frequent cause of severe headache.

One of the most constant and earliest symptom of brain abscess is headache which may be severe or mild and in many cases it corresponds to the seat of abscess, in which case percussion of this area will increase pain. Anything tending to cause a flow of blood to brain increases the pain with headache due to brain abscess.

Brain tumor headache deserves special mention. It is an almost constant symptom of intracranial growth, except in its beginning. While the pain may be slight and intermittent in the early stages, later it is almost continuous and reaches an intensity rarely attained by other conditions. All acts that increase the flow of blood to the brain cause an increase in the pain.

The pain is usually diffuse, extending over the whole head, but may be localized when it has some slight value in pointing to seat of growth.

Headache is not infrequently seen as a pronounced symptom associated with the various psychoses of all types. It is inclined to disappear during the height of the disease only to reappear more intensely during convalescence.

Mingazzini and M. A. Bioglio have reported a number of cases showing that acute psychic disturbances may follow severe headache and migraine. They believe that severe pain in the head may be the sole cause of marked psychical symptoms, in an otherwise normal person. Hyperaesthesias and neuralgiform pains in head are frequent in hypochondric and hysterical psychoses. In intoxication psychoses (alcohol, diabetes, uremia) the various hyperesthesias and neuralgiform pains may be caused by a neuritis as well as an encephalitis.

Neurasthenia has often a headache either as the only symptom for a long time, or as one of many.

This, like the hysterical headache, is to a certain degree caused or made worse by emotional causes or self-inspection. It is probably more correct to call this an uncomfortable feeling, a sense of pressure, constriction or expansion, than to call it a true pain or ache. These patients often complain of a feeling of lightness, fullness or emptiness or of a foreign body in the head that is obstructing thought.

This pain often takes the form of geometrical outlines, as lines, squares, circles, etc. This pain never is severe enough to keep patient awake, al-

though these patients are often poor sleepers. Any diversion of attention relieves the pain for the time being only to return on self-contemplation. Most headaches lasting continuously for three or four months are due to neurasthenia.

Hysterical headache is a burning, boring, or gnawing pain on top or to one side of the sagittal suture. It is sometimes compared to the sensation of driving a nail into the skull (clavus hystericus). It is exaggerated by emotional causes. The patient has the other signs of hysteria, Charcot's landmarks of tenderness, i. e., under left mammary gland, in the epigastrium and over the left ovary and to this we may add tenderness in the dorsospinal region over the third and fourth dorsal vertebrae. Patient often also shows the peculiar areas of anaesthesia and changes in the field of vision, especially in the color field.

Paralytic dementia is often accompanied by severe headache but here we have the history, the reflex changes, the lumbar puncture findings, the paralytic attacks, and the psychic peculiarities.

Multiple sclerosis has headache as a prominent symptom which is associated with the other cardinal symptoms of this disease.

Prognosis depends on the cause and its removability. The habitual headache is usually very stubborn and may remain through life. Migraine is practically incurable (Gowers). Neuralgias are much more amenable to treatment since the advent of the Gasserian ganglion operation and the various injection methods.

Treatment of headache, of course, varies with the cause and we must first try to find out what this is and remove or correct it, if possible. Good hygienic conditions help nearly all forms of headache.

Nearly all the functional headaches and head pains are greatly benefitted by psychotherapy, aided by electricity, massage, hydrotherapy, change of scene, rest and drugs. Of the drugs used for treatment of the functional and migraine headache we get the best results from cannabis indica, arsenic, bromides, etc.

During the paroxysms of pain one must resort to stronger anodynes, such as the combination of sodium salicylate and potassium bromide that Lauder Brunton advises. Antipyrine, acetanilid, phenacetin, caffeine and acid acetylsalicylicum and last of all the opium preparations, given unbeknown to the patient.

Castor oil and arsenic are the best remedies to give continuously in neuralgias. Dana recommends massive doses of strychnine hypodermically of (1-30 gr., increased to $\frac{1}{4}$) and claims to get an anodyne effect. Edinger recommends application of ethyl chloride to nerve points.

In obstinate trigeminal neuralgia after resorting to drugs and the various injection methods, nerve cutting, etc., one should advise the removal of the Gasserian ganglion by a surgeon trained in this special field.

Arteriosclerosis is best handled by nitrites and K. I. Ergot is of value in some cases of vasomotor origin.

Iodide of potassium is useful in gouty, rheumatic and above all in syphilitic cases where mercury should also be used energetically.

Migraine attacks that threaten when the patient awakes, may often be prevented by eating food before raising the head from the pillow. During the attacks one should be kept in a dark, quiet room and be given plenty of hot drink, such as tea, coffee and even plain water. This to be followed by Carlsbad salts or the bitter laxative waters and the above mentioned anodynes of the coal tar group, and in stubborn cases, one should with caution, resort to the opium preparations.

In brain tumor cases one should advise operation even where the tumor is not localizable or removable, for the decompression operation gives almost certain relief of pain and prevents or defers blindness, as well as prolongs life.

Trephining and removal of a button of bone has in many instances relieved obstinate headaches of unknown origin.

Lumbar puncture may be useful in cases of increased intracranial pressure due to hydrocephalus, meningitis, brain tumor and edema.

All possible abnormalities manifest on the part of eyes, nose, throat, ears and teeth should be corrected before beginning other treatment in functional cases.

HEADACHE OF OCULAR ORIGIN.

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[Read before the Ohio State Medical Association.]

Inveterate expression of headache, whatever its declaration or location, should invariably suggest a physical examination of the eyes. This will determine the possible presence of or will exclude with probable certainty, an ocular origin. Neither the character, intensity or location of head pains are, one or all, distinctive of an ocular cause.

Multiple origin of headache—head pains which owe their origin and persistence to causes which are inherent in the tissue framework of the eyes,

and in a smaller way are the sole cause, and in a larger way are active with other causes on the part of the nervous system, nose, throat, ear and constitutional ailments, in causing head pains.

Headache which proceeds from an ocular cause has, like headache in general, a multiple origin. The declaration of such discomfort or pain is as manifold as its course is persistent or transitory, but neither its character or its location are sufficiently distinctive to point to an ocular cause. Common experience upholds this statement, but it also emphasizes another—that in spite of negative evidence on the part of the eyes, undiscovered abnormal visual conditions may nevertheless be the sole or one of the principal associate causes, for inveterate and uncommon manifestations of head pains.

A careful search for the causal origin of headaches in general and particular cannot be considered complete until an accurate physical examination of the eyes, with recourse to every diagnostic aid at our command, furnishes reliable evidence which either rules out or points with reasonable assumption to the ocular as the principal or as an important but hitherto unsuspected associate cause.

An unprejudiced and disinterested study of headaches must without question assign to an ocular origin a place of signal importance, even though it may fail to uphold many extravagant claims which have been made for it. Head pains for which the eyes are directly or indirectly responsible fall naturally into several groups, and, in brief, we will consider those practical deductions of each which common and personal experience suggests as probable or has established as facts.

I. THE OCULAR, THE SOLE CAUSE FOR HEADACHE.

It is one of the undeniable facts in ophthalmology that the eyes may be the sole cause of inveterate headache which is persistent or transient, general or local. It may recur at irregular or stated intervals, but even its more violent or constant expression in the brow and circumorbital regions does not give it sufficient distinctive diagnostic importance to connect even this more or less localized pain—for which we must also retain the general name of headache—to an ocular cause. In character, intensity and duration it does not differ from that resulting from general and other causes.

To connect its probable dependence, even for these cases of almost certain ocular origin, careful elimination of other general and special causes or their certain absence must be assumed. Again, it can be considered probable only that the eyes

are the starting point for such a headache if the history of the case refers to rapid fatigue and discomfort in and about the head and exhaustion of the eyes out of proportion to the exertion demanded of them for any prolonged close work or for distance vision, assuming that favorable light conditions exist and good general health is present. This symptom may be aggravated by sudden or unexpected visual exertion, and the person will be made unpleasantly conscious of his eyes upon slight provocation. The final expression will be a bilateral discomfort or browache, with a feeling of tension in and about the eyes, which temporary suspension of use or pressure against the region of the brow may relieve, only, however, to recur with greater intensity if use of the eyes is persisted in. The pains will extend to the temples, rarely to the vertex, and an unpleasant sensation of traction will be added along the base of the head and occipital region. Commonly, as already stated, the pain or discomfort attends or follows the prolonged use of the eyes for near or distant vision, long exposure to bright light, etc., and it comes on toward the middle or close of the day and is frequently attended by a feeling of uncontrollable drowsiness and weariness of the eyes and circumorbital region.

This more or less characteristic manifold expression of physical suffering of probably ocular origin may culminate in an attack of cephalalgia, hemicrania or neuralgia in one or several divisions of the trigeminus or upper cervical nerves, with active participation on the part of the sympathetic and sooner or later with abnormal tensions of the entire nervous and circulatory systems, followed by general exhaustion, nausea, vomiting and prolonged prostration.

The point to be emphasized is that the final pain explosions do not differ in kind, involve the same sensory nerves and differ only in their intensity, but not in location from many similar manifestations of excessive suffering in this region, due to general nasal, neurological and aural causes.

The members of this first and most important group represent otherwise normal individuals except for an undiscovered physical deformity of the eyes.

The vexatious discomfort which this entails neither their normality, with its unimpaired general health and sane judgment, nor a vigorous tissue fabric of the eyes are able to overcome.

Neurotic and neurasthenic causes are rarely in evidence, and neuropathic ones can also be excluded. The general practitioner rarely sees these

cases. Most of their number at once, at their own or at the suggestion of others, seek the services of an oculist and have proper corrective lenses adjusted. These once in their possession, little or no complaint is subsequently heard. Such persons, after the long tolerance of discomfort which they had supposed was natural to them and to be endured as best it could before wearing glasses, fully recognize their ocular limitations and profitably transfer this experience to the use of their eyes when once they have realized the favorable contrast afforded. If the optical adjustment is satisfactorily accomplished, such persons do not again need or seek aid or advice, until presbyopia or some accidental happening of illness, neurasthenia, toxemia, etc., which for the time being lower the standard of general health and as a part of this depression call renewed attention to the eyes. These cases represent all ages, from early childhood to forty years or over. Hereditary transmission of a physical deformity or individual peculiarity are the underlying anatomical factors. Until mechanical means are made use of to supply that which nature has withheld the members of this group illustrate every possible phase of wretched existence.

As already stated, they are largely healthy and normal individuals. They often make heroic but vain efforts, through rational self management, to try in every possible way to conserve the strength of their eyes, only to fail in the end or until the discovery is made that lenses afford not only better vision, more comfortable use of the eyes, but also often confer freedom from distressing head pains.

We also meet with complaints of head pains and circumorbital distress for which in the main an ocular origin is accountable. These are cases of central chorio-retinitis, atypical varieties of choroiditis, retro-bulbar neuritis, etc. The presence of these pathological changes and their discovery through the aid of the ophthalmoscope clears away all doubt concerning their causal origin and also at once suggests their independence of other causes and directs the measures for their relief. Often these ocular lesions and the discomfort which attends them are directly dependent upon constitutional dyscrasias, such as gout or rheumatism, or are attendant upon leucocytosis, secondary anemia, etc.

Summarized briefly, this group belongs to the province of ophthalmology. With few exceptions they are first seen by oculists, are promptly relieved by accurate optical correction, which is gratefully accepted and worn for years with comfort and the relief of annoying symptoms. Hered-

ity is in the main responsible for the physical deformities which are present and which find their most frequent and intractable expressions in hypermetropia, hypermetropic astigmatisms, mixed astigmatisms, etc. Aside from this physiological deformity the eyes are healthy. Neurotic and neuropathic causes are conspicuously absent. Moderate and even pronounced muscular imbalance may be present, but in most instances is relieved by the faithful use of corrective lenses. If not relieved after longer trial of lenses, prism exercises and even surgical interference may become expedient.

II. THE OCULAR AN ASSOCIATE BUT WHOLLY LATENT CAUSE OF HEADACHE.

With this and the following divisions the ocular can only be considered an associate cause of greater or lesser importance, and it devolves upon the oculist to determine its presence or absence as an etiologic factor. This group is a small but important one.

The largest number of these cases are seen first by the general practitioner, neurologist or rhinologist, whose diagnostic ability have led to the discovery of tangible causes without affording more than partial relief of the inveterate headache.

Ophthalmology has established the fact that latent optical errors may be so persistently negative that there are no symptoms which could point to the eyes as at all concerned, and for this reason are referred for a test examination, with the possible hope of the discovery of a silent cause. The patient's statement that vision is perfect and that the use of the eyes for close or distant vision is not interfered with except for the bothersome headache, counts for nothing until a thorough examination under a cyclopegic (preferably atropine) has been resorted to. Lowered sharpness of vision may have been present since early life, and thus the patient can only judge or compare by his own standard, which falls short of the normal. He also accepts for the same reason with stubborn tolerance a certain share of asthenopic disturbance, and, as already stated, blames it upon the headache, which neither he nor his physician connect with an ocular origin until all other rational causes have been investigated.

Lowered sharpness of vision, indefinite complaints of annoyance in watching rapidly passing objects in crowded thoroughfares, assemblies, etc., may, if present, help to furnish a clue to suggest the expediency of examination of the eyes, which the patient often scorns as unnecessary and permits with reluctance.

In these cases, referred as they are by those

who have already spent their skill and diagnostic ability in discovering and relieving active and unquestionable general and special causes; even greater ingenuity and experience is required on the part of the oculist, to fairly and justly eliminate or point out the eye as an additional minor or major associate cause.

Unfortunately, the examination of these cases does not always disclose the presence of pronounced ametropia, though again and again it happens that it is found and even while corrective lenses only ameliorate or lessen the discomfort which is present, physicians and specialists have the satisfaction of knowing that the ocular examination of that particular case has been as searching and as complete as possible. What is surprising is that often the optical correction of very low errors of refraction is attended by marked benefit, and again, it happens that for higher ametropic states, associated with considerable muscular imbalance, lenses are flatly refused, or speedily discarded even after a patient trial. An hereditary or acquired neuropathic legacy can never be lost sight of in these cases.

Summarizing the Practical Deductions of This Group.—These cases are not infrequently met with and they are seen first by general practitioners and other specialists. Only when these fail in their attempts to afford relief, are the patients referred to an oculist, with the possible hope, only, that the eyes may harbor a silent and undiscovered cause.

The largest contingent is furnished by the neuropathic and neurasthenic classes. In exceptional cases lenses may relieve a certain share of the head-pains, and this applies especially to the optical correction of low errors of refraction, but with a larger number, the optical correction, prism exercises, etc., are mainly justifiable as part of the general treatment for the other causes in evidence, or to aid these as possible suggestive measures in the moral management, which is of equal or greater importance in these cases.

III. THE OCULAR AS A DOMINANT AND ACTIVE ASSOCIATE CLAUSE.

This group furnishes the largest contingent of headache cases. For this reason, it is of equal practical interest to specialists and general practitioners. This common interest should evoke a determined purpose to combine diagnostic skill and abilities in the effort to discover the manifold causes and to afford relief for these particularly vexatious and intractable expressions of head-pains. Among the sufferers all ages and all

classes of humanity, except the excessively illiterate and the abjectly poor, are included.

The complex symptoms which accompany the ever present one of headache, which again overshadows all others; appear endless, and include every manifestation, from unpleasantness, discomfort or ache, until the final one is reached; as hemicrania, cephalalgia, parasthesia, migraine, neuralgia, tic-douleureux, nervous, sick headache, habitual headache, etc., etc., but in no way or manner does the final or typical declaration enable us to separate them from one or the other of several causes of similar effects, which again include the principal lesions of the nervous system, to mention, only, focal lesions and other pressure producing ones, i. e., meningitis in all its varieties, arterio-sclerosis and the many psychic and reflex head pains, etc.; also the general causes, notably of the gastro-intestinal tract, intestinal toxæmia, renal lesions, diabetes, etc., with merely a cursory reference to lesions of the special senses, nose, ear, throat and eyes.

If reference to the eyes is here made last, it is not that this may be a lesser etiologic factor compared with others, but because, with this group, it is as much or as little entitled to prominence, until this is established by the careful elimination of others equally probable. That it is among the most conspicuous and frequent causes, though often a silent one, there is convincing proof, but that this assumption leads often, also, to erroneous conclusions on the part of the patient and physician is also true. The former hears and infers much about the frequent presence of an ocular cause, and even when there is but a slight provocation in his case, impresses himself with the idea that his eyes are at fault, and he often succeeds in making his physician share this view, when the latter, though sometimes convinced of the contrary, yields to the popular belief and says, though rather disdainfully, "have your eyes examined first."

Often an oculist may be misled and may assign too much importance to the ocular cause undoubtedly present, unless he is thoroughly informed as to these cases and their multiple origin. If he assumes, as some have done, rather peremptorily, that his examination was made with every precision of method and scientific accuracy and that an error of refraction was found, and that the lenses and other measures which have been furnished, should and must afford relief, he must often be disappointed when the patient fails to confirm the belief.

A more harmonious coöperation on the part of the general practitioner and the specialist should be shown.

This large group of cases, with its numerous subdivisions and among which, one and all, the neurotic element is always in evidence and in which neurasthenic and neuropathic causes can never be entirely excluded, which even if they do not directly cause, certainly precipitate many an attack of headache in cases in which an unknown error of refraction is present. Equally important with a rational ocular therapy which includes, first of all, proper corrective lenses for the physical shortcomings of the eye, prism exercises and even surgical interference to overcome and correct muscular imbalance; is the moral management of such cases through suggestion and other methods which reenforce the former and which only the personal influence and special aptitude of the physician and specialist can enforce.

It is evident that many of this class where neurotic and neurasthenic tendencies are uppermost, will be more or less infirm, or, at least uncertain, so far as trusting or relying on their own judgment when forced to endure the abnormal physical pain which centers in or about organs as important as the eyes. Emotionally, such persons are easily upset; add to this a stronger appeal to their feelings, with dread apprehensions and imaginary fear of blindness, they will soon become so hopelessly entangled that only the stronger moral force of another can tide them over and suggest to them that which their own enfeebled nervous systems cannot at this time furnish them. In other words, such persons must be told in the plainest language that the eyes are not the sole cause for the headaches and other symptoms, but are only an important associate cause, that they may be relieved of that share of the head pains for which the eyes are responsible, if proper glasses are faithfully worn and other directions are followed, together with other general measures directed to the other causes known to be present, or to be discovered by the general practitioner. This can in no possible way lessen the influence of the oculist in the mind of the patient.

For this division and its subdivision, errors of refraction representing every known physical deformity of the eyes are largely responsible for head pains. In many instances, these are associated with muscular imbalance, or heterophoria and strabismus of congenital, or as a chance individual peculiarity, or acquired origin. Heredity is more in evidence for some than for other ametropic states and this applies to astigmatism and hypermetropia.

So commonly is this handed down in certain families that their members look forward with

almost certainty, to their turn, and the time when glasses will be for them not only expedient, but necessary to relieve otherwise intolerable discomfort and head pains. In most instances, accurate optical correction added to the other measures, effectually lessens the tension of an easily overwrought nervous organization, restores a better general nervous and ocular equilibrium and averts the precipitation of other equally imminent causes on the part of the nervous system.

It does not follow that there are not some or even many cases which are not at all favorably influenced so far as the headpains are concerned, even though the eyes have been carefully refracted, the subjects discarding, after long and patient trials, the lenses which have been furnished. More astonishing still are those cases in which lenses are furnished, or have been indiscriminately selected, which represent the opposite of that which the eyes require or for positive refraction minus glasses.

That among the subdivisions of this group, the headaches due to general causes and which even include intestinal and renal toxæmiae are favorably influenced by the rational management of existing optical errors through lenses, and that the same holds good also for many neuropathic lesions which furnish the mysterious causes for migraine, chorea or epilepsy, is also conclusively established. That it does more than lessen the frequency and intensity of the paroxysms of painful neuralgia or stay the precipitation of impending attacks by preventing too rapid exhaustion of the nervous territories of the trigeminus and sympathetic which often precede the final termination in prolonged exhaustion of the entire nervous system or convulsive seizures; still awaits proof. But that optical correction in these cases, where it is indicated, accomplishes beneficent and far-reaching good, is absolutely without question.

That a physical deformity or muscular imbalance or both, and their correction through lenses and surgery, will be relieved without attention to other causes and without other measures stamp out attacks of true migraine; rests on uncertain proof, yet it may effectually relieve some and favorably influence others.

SUMMARY.

A better and clearer union of forces on the part of the oculist and practitioner.

Every case of inveterate headache belonging to the group deserves and demands as part of a complete investigation, a thorough physical examination of the eyes.

The oculist should discard the assumption that

he is entitled to first consideration or greater credit if the patient first consults him, and he discovers tangible cause on the part of the eyes, and his lenses and directions relieve the headache. He must not forget that many of these cases are prepared for him by the general practitioner and other specialists, and have already been placed under a rational therapy and suggestive management, which his examinations and his remedies only reenforce and make more or less permanent, although no mention of this may have been made by the patient. The general practitioner and the neurologist as well, never have their share of influence or credit lessened if those trained by experience and greater proficiency in special methods of investigation, make the test which leads to the discovery of causes resident in so important an organ as the eye and furnishes data which are of inestimable value in their further treatment of the case.

The ocular, in this important group often overshadows, so far as concentration and severity of symptoms are concerned, those due to other causes.

Optical and other special treatment directed with a purpose to relieve head pains due to inherent or acquired ocular causes, is, in most cases, prompt and effectual and that share which the eyes contribute to the general nervous tension, depression or extreme exhaustion resulting from other associate ones, is also thereby, in some entirely, or in many, greatly relieved. That the more uncommon headaches of mysterious origin, such as migraine, circular headache, habitual headache, etc., are more than favorably modified by the ocular treatment which may be indicated, awaits confirmation.

THE ERRONEOUS ASSUMPTION OF AN OCULAR CAUSE FOR CERTAIN HEAD PAINS OF GRAVE CENTRAL OR OTHER ORIGIN.

The commonly accepted and relatively speaking, true statement that the ocular origin accounts for many different expressions of headache besides asthenopic and other symptoms which directly suggest this, has led to frequent unfortunate mistakes on the part of the patients and the public in general. On this assumption, too, cursory advice is often given by physicians and those who should know better, and without further explanation many are indifferently told to have their eyes examined for glasses, and seek so important a remedy as the adjustment of glasses in more than one quarter. It is not to be wondered at that many mistakes are made, fortunately not attended by serious harm, in most cases of the foregoing and other groups, but in those belong-

ing to this one, an error of diagnosis is fraught with discredit to the one who fails to discover the serious nature of the head and ocular symptoms and their cause, and to the patient it is a useless loss of time and senseless postponement of therapeutic measures for a grave remote or original lesion for which they may be imperatively necessary. Such lesions include the early stages of multiple ocular palsy or ophthalmoplegia, the early stages or prodromatic evidences of locomotor ataxia, finally leading to paresis and paralysis of the ocular muscles, and readily mistaken, at this early period, as a manifestation of heterophoria, also retinitis nephritica and diabetica, the declaration of arterio-sclerosis on the part of the retina, thrombosis of the retinal and choroidal veins, retro bulbar neuritis, etc., etc.

And this is, in the main, due to that vague and obnoxious term, eye strain, which has cast opprobrium upon oculists, for the reason that it embraces within its scope, every symptom of every known disease in ophthalmology.

Like an epidemic delusion, it has spread among the intelligent and also the less well informed lay and professional circles, and one and all have added their influence towards perpetuating a popular fallacy. Through concerted action, alone, among fair-minded specialists will it be possible to restore a better understanding and disperse the vagaries which this name suggests.

Of all the specialties, ophthalmology has been most divided and encroached upon. Some years ago, it was suggested that errors of refraction and muscle cutting should be apportioned to neurology. Since then, and at present, the opportunity is at hand for any and every one, both in and out of the profession, to examine eyes and fit glasses, and a set of test lenses is considered the main requisite for this important investigation. Indiscriminate selection of lenses, without almost certain diagnostic proof, is never justifiable, but in this group, must be positively condemned as unscientific and harmful. My own experience furnishes numerous illustrations of this, in which lenses had been prescribed, and worn with the vain expectation of benefit, which could accomplish no possible good because they were purposeless.

For the reason that headache and vertigo are frequently associated with serious general lesions and with blurred and disordered vision, transitory diplopia, etc., empirical attempts were made to overcome these symptoms by the adjustment of glasses or prisms.

Oculists see a larger number of headache cases, dependent upon real or supposed errors of refraction now, than formerly, for the reason al-

ready stated and because ocular therapy is made to appear so ludicrously easy, through drug firms that furnish, not alone eye salves, collyria, antiseptic eye washes, but also specific directions for use, while all but the full name of the disease is given and that may be included in the convenient term eye strain.

With greater zeal than ever, we must point out, in justice to ourselves, our patients and our fellow practitioners, that this or that particular cause of headache is only in part, or perhaps not at all, dependent upon an ocular cause erroneously classified under the term eye strain. With even greater zeal and determination of purpose our efforts must be combined to prevent the important lesions of this group, with their headache and ocular discomfort, from being included under this meaningless term.

Summarizing briefly, the conclusions we may draw from the consideration of this group, concern mainly, the general practitioner and the more intelligent of the public, with a plea for a more rational and searching diagnostic interpretation on the part of the former, of the general symptoms of head pains and the causes which create them. To restrict the meaning of the term eye strain to those cases that furnish satisfactory proof of a basis in fact, and where it can be demonstrated by tests of scientific accuracy; while for those of the present group it is meaningless and a misnomer.

Above all, let us, as physicians, coöperate with every possible fairness, one with the other, and not forget that in the management of headache of multiple origin, the great factor suggestion, known under so many fanciful names, must find its application in some cases, together with a rational therapy indicated for the one or several causes, which are in evidence and which, through general or special experience or both, can be discovered.

HEADACHE FROM NASAL CAUSES.

WILLIAM W. PENNELL, M. D.,
Mt. Vernon.

[Read before the Ohio State Medical Association.]

The observation that practically nothing new has been added to our knowledge of headache for years causes the writer to approach the subject of nasal headache with considerable reluctance. Still, when one has records of work about the nose and accessory sinuses extending over a period of a quarter of a century, the pre-

sentation of a few such may not be so unimportant after all.

Some headaches are born, others acquired. With the person who is handicapped by the headache diathesis and a severely sensitive balance, small causes are apt to lead to large effects. It is just as well to keep this in mind when dealing with these individuals. The migrainous man or woman, having behind a train of neurotic ancestors, is all the easier victim to reflex and direct activities, in addition to the periodic nervous explosions which he suffers.

Inasmuch as headache constitutes the major portion of the vast sum of suffering in the world, every side light that can be thrown on its amelioration should be used. Many a life, which would be otherwise happy, is made miserable by an obscure headache. On this account the most painstaking effort should be made to uncover the cause of distress, whether local or reflex, remediable or organic.

That there are many persons suffering with a distress of the head which originates in the nasal cavities alone I verily believe. Then, again, that two reflex causes can operate concurrently in causing a headache has been seen. In these the correction of one and not the other is barren of good results.

Case I.—J. B., female, aged fifteen, fully developed, all the bodily functions normal; irregular periodic headache. There was a bit of history obtained here that is so often received—namely, a jeweler-optician had promised a cure with spectacles, but failed, and the druggist had been equally confident of success with his digestive agents and liver medicines, but his efforts miscarried.

In this case it was noticed that the headaches were more frequent in the colder seasons, the frequency beginning with wintry weather and particularly after dressing for an outing. She was examined a number of times when the headache was absent, and again when present. When present, that portion of the nasal septum supplied by the nasal branch of the ophthalmic nerve was red and swollen; when absent, the membrane presented nothing abnormal. At first, it was suggested that the colder air of outdoors was responsible. Its recurrence while indoors caused further search, however. Finally it was noted that when she handled her furs or the moth balls with which they were kept during the warm months, the attack would follow, but without nausea as with other cases arising from disagreeable odors. It was also remembered that as the scent of the balls wore off, or toward spring, the headache was less severe. The treat-

ment was obvious. In addition, a prolonged course of treatment with menthol, phenol and iodine in liquid vaseline, with an occasional application of a 5% solution of nitrate of silver, removed the peculiarity.

Case II.—M. P., a young man, aged eighteen, complained of an aching over the temple and frontal regions. In addition, there were redness of both eyes, photophobia and lachrymation. The ocular distress and headache had caused him to desist from work as a farmhand. Examination failed to find any disease or other disturbance of the eyes; but, as there was evidence of a recent cold, an investigation of the nasal cavities resulted in finding an infection of the anterior ethmoid cells. These were punctured and a quantity of pus allowed to escape, and the unpleasant symptoms ceased. This was a case where the ophthalmologist might say an ocular distress had been developed from the nose.

Case III.—Man, aged thirty-five; gave a history of having had an influenza six or seven years previously, with almost constant headache and purulent discharge from his left nostril ever since. A surgeon had removed a portion of the middle turbinate, but without effect on the distress. Examination revealed pus escaping along the remainder of the turbinate, and there were several small masses of myxomatous tissue attached to the ethmoid. On entering the ethmoidal and sphenoidal cells, a quantity of pus was liberated. The polypoid tissue was removed, the cells curetted and an antiseptic wash employed, with relief to the headache. Normal salt solution in atomizer, followed by a one-half of 1% solution of formaldehyde, was after treatment until all discharge ceased.

Case IV.—W. R., aged sixty-five. Had had an acute rhinitis, for which he had sniffed large quantities of a strong solution of chloride of sodium. This had been followed by severe pains and aches over right eye and temple, radiating to occipital region. For two weeks the distress had come on about 10 a. m. and lasted until 4 or 5 in the afternoon, reminding one of the ordinary malarial supraorbital neuralgia. Sense of smell diminished; the nostril of that side was partly occluded, and he had a sense of heaviness in the forehead and vertex when pain ceased for the day. A diagnosis of catarrhal inflammation of the frontal sinus was made. Soothing remedies were applied to the nasal mucosa, hot fomentations externally, and anti-periodic doses of quinine were given in the interval of pain. Within a few days the pain lost its intermittent character, and the sinus had discharged a small

quantity of greenish material. After this the discharge became profuse, and all pain vanished.

Case V.—Female, aged twenty-six, single. Unilateral headache of almost constant presence. The distress was of the dull, diffuse variety, though there were exacerbations of sharp neuralgic pain, the suffering following the distribution of the fifth nerve. There was a fetid discharge from the right nostril, though the fetor was often nearly absent. The distress was least when discharge was profuse; greater with its cessation. The mental state was that of despondency, poor appetite and disordered digestion. In addition, there were constipation, a sallow skin, vertigo and tinnitus.

A syphilitic history cleared the way for the diagnosis of empyema of the sphenoidal sinus, which was being kept partly relieved by the discharges.

Cleansing the nose with an antiseptic wash, the small stream of pus was utilized as a guide for a gouge to enter the sinus, enlarging the opening sufficient to establish good drainage after careful curettement. Some caseous material with necrosed bone were removed. Constitutionally, proto-iodide of mercury to the extent of one-fourth grain after meals and two grains sulphur before meals were given, the patient making a good recovery.

These cases are referred to more for the purpose of showing that it is not difficult to demonstrate that nasal disease causes pain or ache at other points in the head than the nose, the conditions found leading directly to the diagnosis. But to have a headache that has baffled every means of search for its cause, a headache that has defied every remedy for its control, a nasal headache not due to obstruction, infection nor idiosyncrasy, and yet a headache due to causes within the nose not so readily suspected, the discovery of which came about in a desperate effort to give relief, is not an everyday experience with me.

It was Case VI, C. W. B., aged twenty-six, merchant, apparently healthy and vigorous, but complained of more or less continuous headache. Inquiry developed the fact that he had made a persistent effort to rid himself of his trouble. He had had spectacles from various sources; he had been dieted by the general practitioner and the specialist; many urinary analyses had swung his foodstuffs from diabetes to nephritis; his ears had been inspected, his teeth and throat overhauled; he had had calomel for his liver and sulphocarbolates for autotoxemia, and at one time had excluded every sort of animal material

from his food with the doggedness of a religious devotee; he had mercurials and iodides in the face of no syphilitic history; had atomized his nose, had been on high and low altitudes, had used the agents that are supposed to eliminate uric acid, had used bromides with ergot to allay cerebral congestion; his lips had been blue with acetanilid, antikamnia, ammonol and the various headache powders to be procured at any drug store, and yet his headache continued.

So complete and interesting was his story—one that I could not in the least doubt—that it looked like a hopeless task to approach. Many of the gentlemen he had consulted were men of experience and skill; so no time was spent on opinions that had failed.

On inspecting the left nostril it was seen that the patient had had a treatment with the galvano-cautery knife. Further questioning developed the fact that he had had a tumescent rhinitis, which had been a source of discomfort in the years that were past. This had been relieved by the application of the electric cautery, having had free use of his nostril since.

The operator had made two parallel applications nearly the entire length of the middle turbinate, the lower broader and deeper than the upper, with the result of effectually tying the remaining erectile tissue down to the bone. My conclusion was that pressure was exerted on the filaments of the nasal branch of the ophthalmic nerve and branches of the sphenopalatine ganglion by the dense scar tissue.

With a pair of scissors of the Grunwald type the turbinate was removed up to and including the upper cicatrix, and by the time the wound had healed the headache had ceased.

The case contained a lesson in nasal surgery which I am not likely to forget.

DISCUSSION.

E. W. Mitchell, Cincinnati: Very much to my disappointment Dr. Hoover is not here. I did not come prepared to make an address upon the subject, but was hoping he would say something I could contradict. The essentials of a good discussion are to get up a contradiction or quarrel over something to give it interest. When we approve of everything said it does not make a very interesting discussion. One would infer from the papers that we usually hear in regard to this subject that the chief function of the general practitioner in relation to headaches is to select the specialist to whom to send the patient. The oculist claims to cure most of them, the neurologist claims a very large proportion of them, the gynecologist puts in his claim, the rhinologist puts in his very strong claim. As a general practitioner, I am very willing to admit that one of our very important duties is to select the proper specialist for our cases of headache, and we have learned

a great deal of all that we know about the causes of headaches from the specialist. And yet so frequently we are disappointed when our patients return from the specialist. When we read the writings of George M. Gould we are very sure if we can only find the right oculist all cases of migraine will be cured. Yet unfortunately with the very many distinguished and able oculists we have in our community, I have not been able yet to find any one of them who can cure all my cases of migraine. Now I am not sure that is the fault of our specialists. I infer that it is not, for I know we have many who are as able as any to be found anywhere.

Now there is a certain proportion of cases of migraine which are very promptly relieved and some capable of cure by the correction of ocular defects. Then there is another class of cases of headache which are cured by operations on the nasal cavities and accessory sinuses, and so on. Then there are some cases greatly benefited by some gynecological treatments and operations. I suppose that taking it in general, headaches are the most frequent of all the complaints that the general practitioner has to treat, for the vast number of our acute diseases begin with headaches in which the chief suffering of the patient at the beginning of the illness is his headache.

One mistake we are very apt to make as general practitioners is to suppose when we have sent the patient to the oculist, the aurist, the rhinologist or the neurologist, and so on, that the case is then finished. These cases need to be followed up. In a very large proportion of cases they are benefited by one or the other specialist. The eye trouble or the nose trouble is one of the factors, but is not the essential cause, or at least is not the only cause of the sufferings of the patient. So that the general practitioner has very much to do in regulating all the habits of life and building up the general health, and in the general control of the patient.

Unfortunately, I was not able to be here in time for the opening of the session, so that I do not know what has already been spoken upon the subject and I am only going to touch upon a very few points. I would like to say a very few words in regard to migraine. That a certain proportion cases is due to ocular defects I believe is true. That many of them are not I think must be acknowledged by any who have had opportunity of seeing a great many cases. I believe myself that the essential cause of true migraine is some profound disturbance of metabolism, and what that disturbance is we have not yet had worked out. The best results I have had in the treatment of migraine have been by about the following course of treatment. In the first place, ocular defects, any troubles about the ears and nose and accessory sinuses, should be corrected. We should be able to put the patient in an anatomically and physiologically normal condition as far as possible. In the second place, a great deal of outdoor exercise is beneficial to all these patients. A very essential, perhaps the essential part of the treatment is very free elimination through all the organs of elimination. The skin should be called upon to do its work thoroughly; the kidneys and intestinal canal—all the avenues of elimination should be kept well up to their work. In diet I dispose almost entirely of meat, not

reckoning either fish or pork—breakfast bacon—as meat, and tea and coffee and alcohol and largely tobacco; frequent Turkish or cabinet or hot baths where the patient can have them, and the drinking of water abundantly; the avoidance of nervous strain, long hours of rest at night and in many cases the injunction to take additional rest at some time during the day. Under a course of treatment of that kind I have seen a great many cases so far relieved of their periodical attacks of migraine as to live very comfortably, and only suffer from some transgression of the rules which are laid down. I suppose we all have our notions as to laxatives. We use salines, salicylates, sulphate of soda, etc., phosphate of soda, which are very useful, and many need to take laxatives very constantly.

Now as to the temporary relief of headaches. As general practitioners we are in constant danger of establishing drug habits in patients who suffer so much from headache. Now the danger from coal tar products is not in single doses or moderate amounts; it is in large doses and in the continued use of these drugs, and I believe where they are properly selected and properly guarded they are capable of very materially reducing the total amount of suffering the human family have to go through; but they ought to be very carefully guarded. It is so easy in patients suffering from headaches to continue taking some of the coal tar products, and I have no doubt all of us have seen injurious effects from the continued use of these drugs. They not only have a deteriorating effect on the blood, but in the perpetuation of the headaches, and you will find the patient sometimes has been drugged and drugged and the headache will be relieved after the drug has been stopped. In the paper which I have just heard, cannabis indica is mentioned as a valuable drug in chronic headaches of a certain form, particularly in the cases of migraine. I have found it in many cases valuable in migraine. It has been very highly recommended by some French writers in recent years. There is a certain class of cases which is not relieved by almost any plan of treatment, that are a constant source of care and disappointment to the practitioner, and in some of these cases perhaps the best we can do is to get the patient to realize that he cannot hope for relief unless he can live a life which is hygienic, in which he follows out proper physiological principles, and be content to suffer some pain until the general constitution is built up to get good results in relief from the various that may lie at the base of the trouble.

R. Baker, Cleveland: I was very much delighted with Dr. Sattler's cautious and well-timed paper on headaches from the oculist's standpoint. There is a little tendency upon the part of some of us to apologize for the cure of our patients that come to us to get rid of their headaches and other nervous troubles. We seem to be afraid we are infringing on the field of the general practitioner. I do not really think that is necessary. Most all of us regret that Ranney, Stevens, Savage and Gould have been extremists, and yet we must confess that in their teachings there is much of truth. Last year one of our surgeons in Cleveland who had suffered from migraine ever since he was a boy, and many of us had tried to

correct his error of refraction, and still he suffered from his migraine. He went down to see Gould and he corrected his refraction error and he hasn't had a headache since. I suspect that I still have something yet to learn about refraction.

I was pleased to hear Dr. Mitchell's comments on migraine. I am tired of coming to these meetings year after year and listening to the neurologists repeat the old chestnut that migraine is incurable. If there is anything that is untrue that is an untrue statement. Nearly every man in this room knows he has cured cases of migraine; not only one, but many; and we have cured them exactly along the lines Dr. Mitchell has suggested. The correction of errors of refraction is one link in the chain, in many cases the most important one, it is true. But these people dissipate, not only in eating and drinking, but in working, reading, long hours without rest, doing without meals and then overloading the stomach. You must regulate all the functions of life and the majority of them will be cured. In a paper I read some time ago I reported the results in 100 cases that I investigated. Fifty-four per cent of these patients said they had absolutely not had a headache for two years. Many had been free ten or fifteen years. Only thirteen per cent said they had not been benefited by the correction of the error of refraction. Several of these were cured or benefited by other means, and by the use of a pessary. So let us label this statement that migraine "cannot be cured" as false every time it is made in our presence.

C. F. Clark, Columbus: I do not wish to discuss this subject generally. Migraine proper is a disease with which I am not very familiar; but migrainous headache I see cured frequently. I should like Dr. Baker to describe the symptoms of some of the cases that he calls migraine. True migraine I seldom have an opportunity to see, the type the neurologist has in mind when he says it is incurable. I see a great many cases of migrainous headache and often cure them. I have no hesitation in saying this.

John A. Thompson, Cincinnati: When I read a modest paper at Canton two years ago on chronic headaches, with the object of calling attention to sinus troubles as the cause of headaches, I think it was one of the first read before the Association and was the only one on the program then. So I am pleased beyond expression to see the discussion this morning, and particularly that a very large proportion of the audience are general practitioners. It shows that the frequency and importance of the causes discussed are recognized, and in future years this puzzling condition will be correctly diagnosed and it will be more intelligently treated. It is a discouraging thing to the rhinologist to get cases with a history of ten or fifteen years treatment without relief and find in the nose chronic conditions that can be bettered, at least, with relief of the headache symptoms.

But I wish to emphasize the point brought out by Dr. Mitchell that where the general practitioner refers a case to the specialist he should not abandon the case, because there is no subject in all medicine where accurate diagnosis is so difficult as in chronic headaches. Let me cite a case—

one referred to me by an able practitioner in Cincinnati—thinking it was probably nasal. I had my doubts about it. But she had a double ethmoiditis. The ethmoids were opened by the curette. The eyes had been carefully tested. But neither procedure resulted in any relief of the headache. The woman died suddenly in her bed some two months later. The post mortem examination showed a granular nephritis that had never given any indication of its presence during her lifetime and she had died from rupture of the heart. The case had several odd features. The general practitioner who had the case in charge had examined the urine repeatedly. I examined it before the operation on the nose, but some way the real, underlying cause escaped us. But the case is only an illustration of what Dr. Mitchell said—there should be co-operation between the general practitioner and the specialist, and the hunt for the real cause of the headache should not be given up until it is found.

C. D. Mills, Marysville: I want to emphasize what Dr. Clark has said as to the importance of a correct diagnosis. I am in full sympathy with what Dr. Kinsman said at the meeting of the Association several years ago, that migraine is just as curable as epilepsy—true migraine. We have a migrainous headache, just as we have typhoid conditions that are not typhoid fever, and we must make the discrimination. I do not think it is fair that the oculist should claim in such a wholesale manner their ability to cure all these cases of headache. As Dr. Mitchell has said, too many come back to us that are not cured. There are certainly more than a few good oculists in the United States—Dr. Gould and one or two others. That is a reflection on our friends here. Another reason they come back to the general practitioner is the fact that the nervous system has a tendency to continue an action after the cause is removed, and further they need general treatment; even a headache that is due to a refractive error is not always relieved and needs continued hygienic and supportive measures, as Dr. Mitchell has so well outlined. In fact, I believe all these headaches are benefited in that way independently of the removal of the causes. I insist that no oculist or any other specialist is able to cure a case of genuine migraine.

D. B. Smith, of Cleveland: There is one phase of headache which was only incidentally referred to in the paper which Dr. Pennell read, and I think it requires a few more words said upon it, and that is malaria as a cause of headache. It often comes under the observation of the oculist. We frequently have a patient come with pain in one side of the face or over one or both eyes, and after all the examination we give them we find no cause for it apparent in the eyes. But if we will go a little further into the clinical history of the case we will find there is a periodicity about it which is marked, and by treating the patient for malaria, give a dozen 4-gr. quinine pills, one after each meal, and arsenic in a dose that they will bear nicely, either Fowler's solution or arsenious acid pills, and after the quinine pills are exhausted keep on with the arsenic for some time. Quite a percentage of headaches which used to give me a great deal of trouble are now relieved. Specialists who live in malarious dis-

tricts will find this source of headaches likely to be overlooked on the part of many other oculists or on the part of the general practitioner.

Mark D. Stevenson, Akron: I quite agree with Dr. Mitchell that ordinarily headache does not depend on one cause. Usually there are several causes. Possibly the patient is strong enough, has enough resistance not to have headache, even if there are four or five different causes; but there comes a time when another one is added. The last straw breaks the camel's back. Possibly if any one of these causes is removed, the patient's resistance may be sufficient and no further headache be experienced. Therefore coöperation between the general practitioner and specialist is needed. Toxemias must always be considered in looking for the use of headache. Probably the greatest progress in the near future will be made in the relation of physics and chemistry to medicine. The question of blood pressure, resistance, the chemical constituents of the blood and other fluids of the body must be considered. The functions of the glands of the body, the adrenals, etc., are not thoroughly understood. When they are, they will probably be much light thrown on the causes of chronic headaches.

As to migraine, I quite agree with Dr. Baker that many cases with migraine are relieved. I do not agree with some that we have a panacea for all ills by prescribing lenses. The only way to make a diagnosis of pure migraine, according to some physicians' statements, is to have treatment instituted, lenses prescribed, etc. If the case is relieved, it is not migraine; if it is not relieved, it is migraine. I have had many cases with a family history of sick headache, with every typical symptom of pure migraine, who were totally relieved, and others that were greatly helped. There is a certain percentage that cannot be relieved. But it seems unjust to consider the latter as the only cases of migraine. Apply this reasoning to cerebral syphilis, for example. If iodides or mercury cure it, it is not syphilis. Because certain chronic headaches can not be relieved by any treatment, should the term headache be applied to those cases only and not to those that were relieved?

E. W. Mitchell, Cincinnati: If I am entitled to any more time, I would like to say one more word as to the curability of migraine. I have always looked upon those cases as true migraine which have the attacks more or less periodically, nearly always with a family history, very frequently with vomiting or sick stomach and with profound nervous disturbances in the attack. I think our text-books pretty clearly outline this trouble as true migraine. I am in the habit of saving to my patients, when I make a diagnosis of true migraine that their trouble is of a constitutional nature. "You have this tendency, which is a part of your makeup. I cannot cure it, but the time will come when you will outgrow the tendency to have it. That comes, I believe, in practically all cases. Sometimes it is between thirty and forty and sometimes between forty and fifty. In women, following the climacteric, they have a tendency to cease. As to our ability to remove the cause and relieve them, I do not believe true migraine is a curable disease. But I

say to the patient: "I can help you if you will help yourself, but you will have most of the work to do. If you will live according to certain rules and regulations—not today and this week or next week, but all the time—you can be very largely freed from your headaches. You may expect to have an occasional attack; but if you will do the work and follow my directions closely and effectually month after month and year after year, you will have very seldom attacks, and you can be very greatly relieved." Now, many of these cases will follow directions closely, and when ocular defects and nasal troubles which may aggravate the trouble are corrected, a great many will go a long time with very little suffering. But in the absolute sense of "cure," I do not believe the cases are cured. If they transgress the rules, if they leave off their glasses, if glasses would relieve, they will have a return of the trouble.

INFANTILE HYPERTROPHIC STENOSIS OF PYLORUS.

F. E. BUNTS, M. D.
Cleveland, Ohio.

[Read before the Ohio State Medical Association.]

The most complete operative statistics upon this subject up to October, 1906, are undoubtedly those given by Dr. George Thompson (Surgery, Gynecology, and Obstetrics, Chicago, 1906, iii, 521). These include eighty-nine operative cases. To these I have been able to add twenty-five others collected to this date, not including one of my own, the history of which I wish to report at this time.

S. G., age four and one-half weeks, male, white, was admitted to Charity Hospital May 31, 1907. Father and mother living and well. No hereditary tendencies.

The child at birth weighed seven and one-half pounds and had increased in weight to eight and one-half pounds at the end of three weeks; from this time on it began to vomit, ceased to urinate, bowels refused to move, and it lost in weight from one to four ounces daily up to the time of operation, when he was four and one-half weeks old and weighed six and threequarters pounds.

The diagnosis made by Dr. J. P. Sawyer, who referred the case to me, was based upon the persistent and late character of the vomiting (about one hour after feeding), by its refusal to respond to changes in its feeding and to stomach treatment, by its progressive emaciation, and by the visible stomach peristalsis. We were not able, even with the greatly emaciated abdominal walls, to palpate any pyloric enlargement or tumor. At the time of operation the baby was extremely

feeble, looking like an ordinary marasmic infant, and having its face and scalp covered with a scaly eruption.

Operation under ether anesthesia. Median incision nearly three inches long above umbilicus. The stomach was partly delivered and the pyloric end was represented by a hard, almost cartilaginous feeling mass, which could not be indented by the fingers, measuring about two-thirds of an inch in length and a little over one-half inch in thickness. Stomach wall not particularly hypertrophied.

An anterior gastro-enterostomy was made for the reason that it seemed it could be done with less stomach and intestinal exposure and manipulation and cause greatly less shock. The only difficulty was the minute caliber of the jejunum, but, as happens in the adult, after manipulation the shriveled and contracted jejunum swelled to nearly twice its apparent size and two small curved rubber clamp forceps were used to hold the stomach and intestine until the anastomosis was complete.

The walls were closed by through and through silkworm gut sutures.

The baby's temperature averaged 103° for several days following the operation and it continued to lose in weight until the eighth day, when it weighed six pounds.

The feeding of the infant presented many difficulties. Vomiting was easily stimulated. In general the feeding consisted of one oz. of albumen water every two hours, alternating with one oz. of diluted cream every two hours. In addition, the milk from its mother's breasts was pumped out and one oz. given by rectum to the child every four hours, and in addition frequent inunctions of sweet oil were resorted to. On the sixth day artificial mouth feeding was stopped and the baby was put to the breast. Continued rectal feeding with petonized milk. As it continued to fail breast feeding was stopped on the tenth day and modified milk composed of whey, cream, sugar of milk, and lime water was given it from the bottle for a week, from which time milk was gradually added and improvement became marked, so that at the end of eight weeks its weight had increased to eight pounds, and at present the baby presents the appearance of a fairly well nourished child of one year.

So much has been written during the past eighteen months from the medical standpoint regarding the treatment of congenital pyloric stenosis in many cases deprecating surgical intervention, that it seemed to me worth while to review the surgical side of it up to this date and see whether we had anything definite and of

demonstrable value to offer toward the alleviation of a condition, which, I am sure, will become increasingly more frequent when the vague condition of marasmus is more carefully studied and the true pathologic condition recognized.

Pathology. As no opportunity for microscopic examination presented itself in this case, nothing can be added to the theories already prevalent. That foetal pyloric stenosis from hyperplasia may occur is shown by Dent in a photograph of a specimen from a seven months foetus, and it is suggested that this represents an atavistic tendency or reversion to the earlier type of development, since the circular muscle is well marked in the pylorus of many mammalia, or that the hypertrophied pylorus is analogous to the gastric mill of crustacea, the gizzards of birds, etc.

Some have ascribed this condition to a primary derangement of the nervous mechanism of the gastric muscle, resulting in incoordination, while the majority ascribe it to gastric irritations, causing spasms of the pylorus and subsequent hypertrophy, and this in spite of autopsies in cases in which no hypertrophy was demonstrable, though persistent spasm had been a prominent feature.

Undoubtedly it would be of great aid in deciding whether to employ medical or surgical measures for relief were the true pathology settled, for a true congenital hypertrophy could scarcely be expected to subside under medical treatment and would call for immediate operation without the delay incident to the institution of medical treatment, while we might confidently expect that a very considerable number of cases of acquired hypertrophy due to persistent irritation and spasm would be benefited or even cured by appropriate feeding and medical care.

It seems reasonable to suppose that both conditions may exist and may thus account for the varying results of treatment; and the number of cases simulating stenosis, in which pyloric spasms exist without hypertrophy, may add a considerable group to these reported as cured medically.

Until more definite means can be established for determining which are congenital and which are acquired cases, it would seem that the term infantile hypertrophic pyloric stenosis would be preferable to congenital.

Of the symptoms of infantile pyloric stenosis, peristalsis is undoubtedly the most important single one and is mentioned in fifteen out of eighteen cases, or in eighty-four per cent. This is a considerably higher percentage than that given by Thompson, who estimates it at about thirty-three and one-third per cent.

Pyloric tumor is a most important, though not

constant symptom and is apparently being more commonly recognized with increasing observations, thus Thompson quotes Nicoll as stating that he palpated a tumor in twenty per cent of his cases. Scudder says it was reported in eighteen per cent out of 115 cases. In fourteen cases reported by Thompson since January, 1905, it was present in fifty per cent, while in thirteen additional recorded cases which I have collected it was present in sixty-nine per cent.

In considering the treatment best to be advised in these cases, the question of prognosis naturally must influence us for or against surgical intervention. In true congenital stenosis of the pylorus the prognosis in the absence of surgical interference is probably uniformly fatal. The average age at death in these cases, as given by Meltzer, is nine and one-half weeks. But it must be very difficult to distinguish these cases from the infantile form, in which Still (Lancet, 1905) says that typical cases with visible peristalsis and a hard, palpable pylorus recover completely under medical treatment and show no tendency to recurrence, and Bloch (Jahrb. f. Kinderkeilk, Berlin, 1907, ixv, 336) reports eight cases cured and two that died under medical treatment.

Thus far it is probably, though not certainly, true that the cases that are submitted to surgical interference are the more severe cases of pyloric stenosis, and not only that, but they come to operation so late that the infant's vitality has been reduced nearly to the minimum. Thus in the cases which I have collected and added to those already collected by Thompson, the average age at onset of symptoms was thirteen days, while the average age at operation was fifty-two days. This certainly seems an unnecessarily long time to delay operation. The records of cases are extremely incomplete in many instances, but in those in which age was mentioned, the average age of those that died was fifty-seven days, and of those recovering thirty-four days, certainly a very decided difference in favor of earlier operations.

The following tables show the mortality in 114 cases, together with certain other facts bearing particularly upon the nature of the operation performed:

Operation	No. Rec'd. Died. Mortality			
Divulsion	27	13	14	51.8%
Gastro-enterostomy..	69	32	37	53.6%
Pyloroplasty	17	8	9	53 %
Pylorectomy	1		1	100 %
Total	114	53	61	53.5%

This table shows practically little variation from the figures for eighty-nine cases, given by Thompson; there has, however, been no reduc-

tion, but rather a rise in mortality in the last twenty-five cases reported.

	Mortality from Thompson's		
	89 Cases.	114 Cases.	Add'l 25
Divulsion	53%	51.8%	50%
Gastro-enterostomy	51%	53.6%	70%
Pyloroplasty	50%	53 %	60%
Pylorectomy	100%	100 %	

It is rather surprising that an operation, seemingly so unsurgical in its method and so unpromising as to its permanency as divulsion, should show the most favorable percentage of recoveries and this cannot be due alone to the smaller number of cases, for in this class we have twenty-seven cases, with a mortality of fifty-one and eight-tenths per cent., while in pyloroplasty there are but seventeen cases with a mortality of fifty-three per cent. It seems to me that it tends to emphasize the probability of this pyloric stenosis being very frequently an acquired form, since the divulsion, though conceivably only temporary in character, might permit of so much improvement from medical and dietetic treatment, as to make the cure practically permanent and perfect, particularly if the hypertrophy were due to pyloric spasm.

Aside from the inherent dangers of operation upon the marasmic babes, the mortality from divulsion seems to have been due, (1) to failure to overcome stenosis (insufficient dilation), (2) rupture of pylorus through peritoneal coat, (3) hemorrhage.

Pyloroplasty, with a mortality slightly less than that of gastro-enterostomy, would apparently be the operation of choice, and would accomplish in the safest, easiest, and most correct manner the relief sought, and yet I can find but seventeen cases in which this operation has been performed. There must evidently be some reason other than a preconceived preference for gastro-enterostomy, to account for the small number of pyloroplastic operations, and this reason seems to me to lie in the fact that operators have considered the hard, thickened, elongated, cartilaginous feeling pylorus to be a barrier to its successful accomplishment. Dent has been an advocate of pyloroplasty, reporting fifty per cent of recoveries in fourteen cases and seems to consider the technical difficulties practically negligible. He uses a single row of Halstead sutures, which simplifies the operation very materially. Cautley is of the same opinion, and says that if the muscle is very thick and hard a portion on each side can be snipped out before suturing. I must confess that in my own case I resorted to gastro-enterostomy because I could not conceive of its being physically possible to perform a successful plastic oper-

ation upon the hardened and thickened pylorus, and in the absence of further clinical experience I should not feel justified in attempting it should another similar case present itself, though in less aggravated cases it would probably prove a better operation than gastro-enterostomy.

In seeking the probable cause of death, as given in reported cases, we find marasmus and shock to be the principal factors, and one late death, fifty-four days after operation, from ileo-colitis, probably not dependent upon the operation.

Gastro-enterostomy has been performed in sixty-nine cases of infantile pyloric stenosis, more than four times as often as pyloroplasty, and scarcely three times as often as divulsion. This disproportion in figures would seem to confirm the thought that, to most operators, the chances of securing a successful result from a pyloroplasty have not seemed encouraging.

Whether the anastomosis was anterior or posterior has been omitted in the majority of cases, but in those in which this detail is mentioned the preponderance is slightly in favor of the posterior method. Obviously the button method is not a desirable one and the suture has been resorted to in all but one case.

The anterior or posterior method will probably continue to be used, as the judgment or experience of the operator may decide. It seems to me that the anterior method could be resorted to with less handling of the stomach and intestines, with freer space for the application of clamps, better control over possible complications entailing loss of blood during operation, and therefore less danger from shock.

The jejunum, as it appears when the abdomen is first opened, is so extremely small that the application of clamps would seem out of the question, yet upon handling and exposure, just as in the adult, it increases very markedly in diameter, and small curved clamp forceps covered with rubber tubing can be used for stomach and gut. This expedites the operation and reduces the hemorrhage to practically nothing, both important factors in lessening the death rate.

The principal causes of death following gastro-enterostomy in these cases have been shock, convulsions, prolapse of gut, and peritonitis.

If one would be entitled to draw any conclusions from this resume, they would be:

I. Congenital stenosis and infantile stenosis are of decidedly different clinical significance.

II. Congenital pyloric stenosis would in all cases call for very early operative interference.

III. Infantile pyloric stenosis develops after birth and is often amenable to medical treatment,

but in the absence of improvement an early operation offers an excellent prospect of recovery.

IV. There does not seem to be as yet any positive way to distinguish between the congenital and infantile forms. The earlier the symptoms, the more probable the congenital form.

V. In selected cases pyloroplasty offers results superior to those of gastro-enterostomy, and should be the operation of choice.

VI. There has been no recent improvement in operative results.

VII. The one great determining cause of death in practically all cases is delay, and it is obvious that until this obstacle is removed by the medical attendant, little or no improvement on the present statistics can be expected.

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ACHYLIA GASTRICA, WITH MECHANICAL METHODS OF TREATMENT.

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[Read before the Ohio State Medical Association.]

In the examination of test meals we often find an entire absence of the gastric juices. This anomaly was first recognized by Ewald in 1888. Einhorn studied the condition in 1892, and called it achylia gastrica. This is the term now generally accepted.

The disease is manifest in two forms. One which is idiopathic, the other acquired; the latter usually following gastritis or the dyscrasias. In the former condition the patient has few or no symptoms, and the intestine is accustomed from the first to do the work of the stomach.

PATHOLOGY. The clinical and pathological study of these cases is unsatisfactory, because the slight anatomical alteration in the mucosa is so confused with the post-mortem changes that it is difficult to distinguish between the secreting and non-secreting glands. However, clinicians have investigated the histological changes in the small pieces of gastric mucosa which were detached and recovered while tubing the patient.

The structural changes in the gastric glands bear no relation to the gravity of the loss of muscular function. There is an increase in the interstitial connective tissue, and an abundance of lymph cells migrate throughout the surface epithelium and glandular substances—Turck.

The literature is scant on the subject of the etiology of achylia, and the general conclusion is that of a neurosis, or the congenital absence of the secretions. However, I have so often found the condition following an acute or chronic gastritis that I am inclined to believe that it has an etiological significance.

These patients are dyspeptic, neurotic, undernourished individuals, and are susceptible to derangement of the intestinal function from the slightest variation or indiscretion in diet. For this reason I deem it best to outline the symptom-complex presented in several cases, so that indications for the mechanical methods of treatment may be understood.

The patient is a male; aged 15, who weighed 104

pounds. The family history is negative. The present trouble commenced five years ago. He complains of ravenous hunger; eats rapidly, has cramps and nausea after meals, especially at night. The sleep is disturbed by exciting dreams and diarrhea. These attacks are followed by constipation, great loss of strength, and inability to attend school. He is thin, extremely nervous, and has not been benefited under the treatment instituted by the family physician.

EXAMINATION. The boy is of delicate build; the skin clear, the eyes dull, and the facies anxious. The teeth are good, and the heart, lungs and gall bladder negative. The liver is slightly enlarged, and the abdomen tense and prominent. The stomach is dilated, and the greater curvature extended four inches below the umbilicus. There was a slight fissure, and some irritation about the rectum. The blood count showed 4,123,441 red cells, 6870 white cells, and a hemoglobin index of 72. An examination of the stool showed an excess of mucus, and thousands of the parasite *Uncinariu Americanu*. The parasitic infection was undoubtedly acquired by eating tropical fruit, as the patient had never been out of the State of Ohio.

Tubing was frequently practiced in this case, and food was found in the stomach twenty-four hours after it had been eaten. In repeated examinations of the stomach contents. I was never able to detect the slightest trace of free hydrochloric acid, pepsin or rennet.

TREATMENT. Male fern, per oram, and in colonic irrigations, which were carried throughout the entire course of the large bowel by means of compressed air, were used to exterminate the intestinal parasite. The gastric treatment was mechanical; namely, pneumatic exercise, morning and evening, before each meal, by direct method with the Turck double tube, and with the Einhorn intra-gastric electrode. There was a rapid improvement in the motor function of the stomach; the patient took on weight, and made a remarkable physical gain during the year. I have been able to follow this case, and have examined the stomach contents at irregular intervals for the past two years, and have thus far been unable to detect any hydrochloric acid, pepsin or rennet, although the patient suffers no inconvenience, and is apparently well. This method of treatment has been used in four similar cases, three of which have been under observation for a period of two years with no return of the symptoms.

In the secondary or acquired form of achylia the symptoms come on gradually. In the acute stage there is a marked histological change in the gas-

tric mucosa. The patient loses weight, complains of fermentation, has periodic diarrhea, and, in the advanced type, the blood stools persist, and the severe intestinal cramps are not relieved by the evacuation of the bowel. There are cases in which there are no gastric juices, the stomach does not even add water to its contents, and the patient is not aware that he has *any* gastric disorder. Conditions of this character have been reported by Hemmeter, Einhorn, Fisher and Turck. This proves that the secretory function may be entirely suspended, and that no symptoms will develop so long as the motor function is not disturbed.

It has been my experience that gastritis in some form always precedes the acquired cases of achylia. These patients come complaining of "heart burn" and the sensation of weight and gastric discomfort after meals. These symptoms follow a certain amount of gastric retention, with inability of the viscus to perform auto-sterilization between meals, because of the relaxed condition of the stomach muscle.

It is of physiological interest to know that the secreting glands are deeply imbedded in the gastric mucosa, and that they depend upon the hyperemia following the introduction of food, and the contraction of the underlying musculature to express their contents at the proper time. In case the muscles are relaxed the walls become thin and the circulation obstructed; the weight of the retained food stuff adds to the fatigue, and, in the absence of hyperemia the muscle is not stimulated in a way that it can completely empty itself. The retained food acts as an irritant, and keeps up a constant oozing from the gastric glands, which in turn adds to the acidity and makes the gastritis more pronounced. "The glands change their character at this time, and instead of secreting acid they manufacture mucine."—Turck.

With a change in the histology of the gastric glands, the food is no longer softened or digested, but acts as an irritant to the pylorus, and causes hypertrophy of this muscle. It is overworked in its efforts to keep the undivided food from being discharged into the duodenum, and in consequence of the extra work thrown upon the fundus, this part of the viscus hypertrophies. The pyloric muscle being stronger, the fundus finally dilates. At this time the work against the pylorus ceases, and with a relaxation of the pyloric sphincter there is a general atonied condition of the entire stomach, and a true achylia. The irritation and congestion (from the stagnant food) predisposes to sclerosis of the stomach vessels, with *resulting hemorrhage. This is often mistaken for ulcer.* Again, sclerosis of the splanchnic arteries with

congestion of the venous and lymphatic system may exist without manifestation at other points. In this class of cases the stomach contents is characteristic, because there has been no change in the food, and no addition of water by the stomach, so that the meal resembles food which has been masticated but not swallowed. No hydrochloric acid is present, and the total acidity is from two to eight per cent, an amount normally found in a meal before it is ingested. Pepsin and rennet are usually absent. However, it is best to test for them, since they are occasionally present in malignant cases when the hydrochloric acid is totally absent.

Colonies of bacteria of the proteus group flourish upon this ideal medium and add to the discomfort of the patient. Their growth is so tenacious that they cannot be dislodged by holding the mucosa under a stream of hydrant water. Obviously, then it is a hopeless task to attempt their removal by means of ordinary lavage with a single siphon tube. The Turck double tube with its fine spray under twenty pounds air pressure, should be used with a solution of nitrate of silver, or the tincture of green soap as a solvent to detach the mucus. The excess of mucus will suggest the frequency of treatment and the strength of the solution used. This will cause a slight sloughing of the thickened outer mucosa layer, open the obstructed ducts, and destroy the bacteria which infest the stomach in the absence of free hydrochloric acid. With an improvement in the sluggish condition of the muscle, the fermentation, belching and nausea disappear, and the appetite returns.

In the presence of the pathology previously outlined, the stomach contents settles into layers or strata, and to determine the amount of retention, the motor ability, and state of the secretory structures, it is necessary to remove the entire contents of the stomach. It is my belief that this cannot be satisfactorily accomplished without recourse to the double tube, and the expression method under air pressure.

The effect of sodium chloride in these cases has been discussed by many writers. It has been proven that very little sodium chloride is absorbed in atonied conditions of achylia, and that the body does not excrete chlorides in any form when depleted. For this reason an increase of this salt in the urine has a prognostic value. I have never derived any benefit by restricting its use, but, on the contrary, am of the opinion that the addition of salt to the diet stimulates the motor function.

ACQUIRED ACHYLIA. The acquired form of achylia usually follows chronic gastritis, and may

be the cause or complication in a variety of debilitating diseases. Achylia can be induced in dogs by exhausting the animal on a treadmill, and by giving him pneumatic gymnastics directly to the stomach muscle with the Turck double tube until it is relaxed. This is sufficient teasing to temporarily retard the secretory function, as the stomach is more directly under the control of the central sympathetic nervous system than any other organ. The animal is then fed an irritating diet composed of meat extract and colon bacillus. A continuation of this form of feeding not only causes a true type of achylia, but a marked relaxation of the stomach muscle, which can be relieved by mechanical treatments and the dietetic means previously outlined. The following case history is one of acquired achylia:

Patient is a male; aged 39, and married. Family history negative. The patient was strong and rugged, having lived upon a farm until six years ago, when he engaged in the liquor business, and commenced to drink and eat frequently between meals. His stomach trouble dates from this time. For the past six months he has gradually grown worse, and three weeks ago had an acute exacerbation, at which time he was referred to me for treatment.

EXAMINATION. He has lost over fifty pounds during the past two months, is extremely nervous; sleeps poorly, and has periodic attacks of diarrhea which are followed by constipation. He complains of pain in the epigastrium, vomits occasionally, and is tender over the upper half of the abdomen. All the organs other than the stomach and bowel were normal. The motor function of the stomach was exaggerated, and I could not recover any of the Ewald meal unless the tubing was made forty minutes after the taking of a meal, and then the quantity recovered was undivided and unchanged, and showed no free hydrochloric acid, pepsin or rennet. The stools during diarrhea showed a large amount of undigested food, but at other times were normal. The urine and blood were negative. While under treatment, I discovered that at certain times the stomach would become exhausted and relax so that there was considerable retention. This was invariably followed by violent, painful, spasmodic contractions of the stomach muscle, and with the injection of this fermenting and decomposed food into the intestine, diarrhea was excited.

TREATMENT. The treatment instituted was a combination of the pneumatic gymnastics with the Turck double tube, and the use of the Einhorn intra-gastric electrode. In so far as I know, this combined method of treatment for this class of

cases is original. The diet was limited to two meals per diem, and the treatment given before meals when the stomach was empty.

The object of the pneumatic gymnastics was to reduce the spasmodic contraction of the stomach muscle so that the food might be retained for a longer period of time. Gradually a generous mixed diet was allowed, and the patient improved to entire recovery, with normal secretion of the stomach glands, and the disappearance of all the symptoms. This patient quit the liquor business, and has had no relapse for a period of two years.

This was undoubtedly a case of acquired achylia, secondary to gastritis and an exhaustion of the stomach muscle. I have had seven similar cases, and have effected a cure in all with the exception of one, who was a man well advanced in years and the victim of chronic interstitial nephritis.

In cases of achylia gastrica there is a marked disturbance of the metabolism, and high degrees of anemia and cachexia are not uncommon.

There are authorities who claim that achylia results from some disturbance in the nervous mechanism of the stomach, but it has been proven that the relief of the nervous symptoms does not reproduce the secretion of the gastric juices. Conversely, the nervous symptoms disappear when the motor function of the stomach is restored, and the nutrition is brought to the normal.

The terms "nervous indigestion" and "nervous gastritis" are as confusing as they are misleading to the physician and the patient. There is always some cause for a derangement of the nervous mechanism, and it is the clinician's business to investigate. That the stomach is very much abused by the taking of hot and cold drinks and food, and that it is subjected to overwork by irregular meals, complexed culinary compounds, chemical and bacteriological abuses, demonstrates the extremes to which we can go before there is a pathological reaction—Turck.

Patients may live for years without a secretion of the gastric juices, especially if the motor function of the stomach is not disturbed. For a while, at least, they suffer no discomfort, yet sooner or later, from some indiscretion in diet, from some intercurrent disease or shock, the intestinal digestion becomes disturbed, intestinal indigestion follows, and there is a complete interruption of the digestive processes, with the development of symptoms mentioned in the previous case reports.

TREATMENT. Treatment depends entirely upon the state of the disease at the time the patient seeks relief. If he has had no severe intestinal

derangement, nor an inability of the stomach musculature, a selective or protective diet, with a regulation of the meal time, and the taking of water according to the ability of the stomach muscle, will usually effect a cure. It is important that the food should be finely divided upon a plate and thoroughly chewed, so that it may be received into the stomach and intestines in a pulverized and well salivated condition. Vegetables are permissible; milk, butter, cheese, fish, and sea foods are well tolerated. I have no objection to my patients taking tea, coffee, cocoa, or even beer and ale in moderate quantities. *The meal time is of more importance than the selection of certain foods.*

The bowels should be kept active by arranging the diet so that there is sufficient undigested residue to make a stool large enough to stimulate the peristalsis of the bowel muscle.

In a case where the intestinal functions are badly deranged, (diarrhea, cramps and bloody stools), it will be necessary to place the patient in a complete state of rest in bed. All food per mouth should be withdrawn, the stomach and bowels should be thoroughly evacuated, and the patient sustained by rectal alimentation.

During the first few days of acute starvation, the general metabolism suffers no diminution, other things being equal—Hoesslin, and the expenditure of energy during starvation diminishes in the same proportion as the weight of the body—Rubner. The values are naturally smaller when the person submits to complete repose. The fasting man lives upon protein and fat, except during the first few days while the muscles and liver contain glycogen. After this the organism economizes the valuable protein more and more till finally it yields up none of its own protein to make good the deficient heat supply, but meets the deficiency by the combustion of its reserves of fat instead—Van Norden.

After the second or third day the patient will lose the craving for food, and the appetite will not return until that point is reached where the fats of the body are exhausted, and the muscular tissues commence to be digested. This causes a toxemia, with a slight rise of temperature, an increase in the pulse rate, and a gradual return of the appetite. This is Nature's demand for food, and the patient is usually able to receive and digest it. It is safe at this time for the patient to leave his room or hospital, when office treatments, massage and outdoor exercise can be intelligently carried out.

The intra-gastric spray, together with pneumatic gymnastics, may be given as indicated during the

subsequent office attention until the muscle has entirely regained its motor function. The intervals between meals should be regulated according to the ability of the stomach muscle to empty itself. There is no treatment that can be universally applied to every case. It is necessary to observe the symptoms, make a correct diagnosis, and follow the indications. Success in the treatment of this class of cases rests very largely upon the correct technique in the giving of the mechanical treatments. Many of the cases will yield promptly to treatment, and will not recur.

CONCLUSIONS.

1. Most of the acquired cases of achylia gastrica can be relieved, and the gastric secretions restored.

2. If the motor function of the stomach muscle can be restored, the position of the organ and the state of the glandular structures will cause no trouble so long as the intestinal digestion is undisturbed.

3. The relation of the secreting glands to the muscular structure proves the hopelessness of medicinal treatment.

4. The mucine and thickened mucosa can be removed by the use of tincture of green soap or a solution of nitrate of silver. The slight sloughing will re-open the obstructed ducts.

5. Medicines given in the usual way will not reach the mucosa when it is covered with a layer of mucine, and they are useless to counteract fermentation and bacterial growth.

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TRAUMATIC HEMATOMA OF SCROTUM.

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[Read before the Ohio State Medical Association.]

This does not seem to be a very common condition, as I am unable to find but little written about it in our surgical works.

"A hematoma is a tumor containing effused blood."

"Effusion is the escape of fluid into a part or tissue."

A hematoma of the scrotum is therefore a collection of blood in the scrotum.

This may take place in the tunica vaginalis of the testicle or in the tunic of the scrotum outside the testicle. The scrotum may become quite large from the effusion. It can be diagnosed from a hydrocele by its rapid formation and by its opacity to transmitted light. From a hernia by

its being irreducible, by the absence of impulse in coughing and discoloration, which is always present if the effusion is outside the tunica vaginalis of the testicle.

A fall or blow upon the scrotum may be the cause of the hematoma.

The most common cause, however, is from the accidental laceration in paracentesis of the tunica vaginalis for hydrocele, as the following case will illustrate:

Mr. ———, aged fifty-three years, a druggist, with a good family history, was troubled with a hydrocele of his left testicle for the past ten years, requiring the fluid to be drawn off about every four months. For the past five years six or eight ounces of serum at a time.

The first and second paracentesis were made by different physicians and were followed by an extravasation of blood under the skin for two or three square inches around where the trocar was inserted. Since the second paracentesis he has performed the operation himself, without any ecchymosis following, until the 24th of August, 1907, when two hours after drawing off the usual amount of serum he felt a tense feeling in the scrotum, which was then considerably swollen and discolored. He then occupied the recumbent position and applied hot compresses for four hours, after which he went home, a distance of one mile, on the street car and again applied hot compresses. He continued to grow worse. When I was called to see him, eight hours after the auto-paracentesis, upon examination, I found an enormous sized scrotum, discolored with extravasated blood nearly black. Mr. ——— remarked that it looked like a mother hubbard squash. The ecchymosis extended up to the umbilicus and half way down the thigh, down over the perineum and around the anus. The penis was nearly obliterated from the swollen condition of the scrotum.

The tension of the skin was marked. Fearing necrosis from the great tension, I had him immediately removed in an ambulance to a hospital, where I relieved the tension by opening both sides of the scrotum. Removed about two pints of clotted arterial blood from the left tunic of scrotum and a large amount of serum from both tunics. There were no clots of blood in the right side of the scrotum. No effort was made to secure the bleeding vessel, as there was a general oozing from the inner surface.

The edges of the incision bled freely. The tunics were cleansed of the clots and serum with a warm normal saline solution and packed lightly with gauze.

The parts were also covered with gauze saturated with a normal saline solution, which was continued for about twenty-four hours.

He made a rapid recovery, with no necrosis or suppuration of the parts. The hydrocele of the left testicle gradually returned.

Ten weeks after the accident I made the radical operation for the cure of the hydrocele, since which time he has had no further trouble.

A CASE OF ULCER OF STOMACH IN AN INFANT OF SIX MONTHS, PROBABLY SYPHILITIC.

ROBERT M. SHANNON, M. D.,
Piqua.

[Read before the Ohio State Medical Association.]

Primary ulcer of the stomach, Koplic says, is a very rare disease in infancy, although cases are reported in the literature as complications of infectious disease, such as scarlet fever, typhoid fever, tuberculosis, sepsis of the newborn and acute gastritis. Remier reports a case in a child three and one-half years old, Hibbard one in an infant four months old, and Rotch in a seven-months-old infant. In 226 autopsies Brinton saw it twice.

The infant in the case I report was the child of apparently robust parents, with no tuberculous history. At the time of its birth it was well nourished and healthy. The mother nursed it for a few weeks, when her milk gave out and artificial feeding was necessary. When about three months old its food began to disagree with it, and nothing could be found which it could retain, and part of the time diarrhoea existed. This condition continued until it was a mere skeleton, and general oedema developed. One day it vomited a large quantity of coagulated blood and also passed the tarry stools. This was repeated two days afterwards.

The father had been a patient of mine for ten years previous and to my knowledge had not had syphilis. However, I felt that these symptoms must be due to an ulcer of the stomach, and that it was probably syphilitic.

On inquiry I learned that about a year before the father's marriage he had contracted syphilis, but had gone to another physician and had been treated for about one year.

I at once put the child upon inunctions of mercurial ointment. In a short time the child commenced to hold its food, and within six weeks or two months it was as plump and well

nourished as any child of its age. When the stomach was in a condition to tolerate it, K. I. was added to the treatment.

If at any time the specific treatment was discontinued, the stomach symptoms would begin to make an appearance. A few months later it developed a case of pneumonia, from which it died in a very few days. I never saw the ulcer, and of course that is the weak point in the case.

I am aware that children a few days old will vomit blood from a capillary oozing in the mucous membrane of the stomach, but this child was past the age at which that would be expected.

The history of the case, the blood vomited and passed by stool, the prompt recovery on anti-syphilitic treatment, convinced both Dr. A. B. Frame, who saw the case with me, and myself that the case was one of ulcer of the stomach, of syphilitic origin, and that the ulcer was responsible for the gastritis.

To diverge from the subject in hand, I will say that in nearly all cases in which I believe an ulcer to exist in the stomach or duodenum, I use anti-syphilitic treatment as a routine practice, if syphilis either hereditary or acquired is suspected.

I report this case because it is possible that other similar cases exist oftener than we think, in which there are no typical symptoms, and to a solution of such cases one may not be guided by the appearance of a hemorrhage as I was in this case.

BOOK REVIEWS

SURGICAL DISEASES OF CHILDREN. A Modern Treatise on Pediatric Surgery. By Samuel W. Kelley, M. D. Professor of Diseases of Children, Cleveland College of Physicians and Surgeons; Surgeon-in-Chief, Holy Cross Home for Crippled Children; Pediatric, St. Luke's Hospital and City Hospital; Pediatric and Orthopedist, St. Clair Hospital, etc., Cleveland, O. Octavo, 768 pages, over 300 illustrations; cloth, prepaid, \$5.00 net. E. B. Treat & Co., Medical Publishers, 241-243 West 23d Street, New York.

This work is the first yet compiled by an American entirely devoted to the surgical diseases of childhood. The work should prove helpful to the general practitioner, the pediatric, and the general surgeon. Dr. Kelly points out that surgical diseases of infants and children are as distinct in their peculiarities as the many medical maladies, and that heretofore this important field has been sadly neglected. "There should be a children's surgeon as well as a children's physician;" or "if one objects to cutting up sur-

gery into little pieces," it should at least be required that the surgeon extend his knowledge to pediatrics." And to this end the author has given the profession a treatise in one volume that embraces the entire scope of surgical information as it applies to childhood.

The volume contains more than 300 illustrations, mostly from the author's own cases. These in themselves are well worth study—they form a distinct feature of the work, and are made more valuable by a full description under each.

SEVEN HUNDRED SURGICAL SUGGESTIONS. Practical Brevities in Surgical Diagnosis and Treatment. By Walter M. Brickner, B. S., M. D., Assistant Adjunct Surgeon, Mount Sinai Hospital, New York; Editor-in-Chief, American Journal of Surgery, Eli Moschcowitz, A. B., M. D., Assistant Physician, Mount Sinai Hospital Dispensary, New York, and Harold M. Hays, M. A., M. D. Third Series. Duodecimo; 153 pages. New York: Surgery Publishing Co., 92 William street. Price, semi-de-lux, \$1.00; full library de lux, ooze leather, gold edges, \$2.25.

The predecessors of this little work were so favorably received that the present work has appeared with two hundred additional "suggestions." These are pithy little remarks of practical value, bringing out many points often omitted from the larger works.

PRESCRIPTION PRACTICE AND GENERAL DISPENSING, AND ELEMENTARY TREATISE FOR STUDENTS OF PHARMACY. By J. H. Beal, Sc. D., Pharm. D., Professor of Applied Pharmacy, The Pittsburg College of Pharmacy, Pittsburg, Pa.; Emeritus, Professor of Pharmacy, Scio College of Pharmacy, Scio, Ohio. Published by the Author.

This excellent little work, while planned primarily for students of pharmacy, may be recommended to medical students as well. It is clear, concise and practical, and will be a great aid to students in prescribing as well as in dispensing medicinal combinations. In these days of proprietary and semi-proprietary preparations elegance of prescribed medicine counts for much. To this end a study of this book will be of great assistance.

CLINICAL DIAGNOSIS AND TREATMENT OF DISORDERS OF BLADDER WITH TECHNIQUE OF CYSTOSCOPY. By Follen Cabot, etc. Price \$2.00.

This volume possesses a personal interest in that while it refers to the work of others it is largely a record of the personal experiences of the author. He does not hesitate to disagree with many recognized authorities, and supports

his position logically. He illustrates his points with appropriate clinical reports of cases which give his statements a definite and authoritative value. The chapters on cystoscopy and prostatic hypertrophy will appeal particularly to genito-urinary surgeons at the present time. There are numerous illustrations which add to the attractiveness of the work.

CLINICAL AND PATHOLOGICAL PAPERS FROM THE LAKESIDE HOSPITAL. Cleveland. Series III, 1908.

A collection of papers written by members of the Lakeside Hospital Staff, published in various journals and reprinted to form a valuable and very interesting volume.

COSMETIC SURGERY. THE CORRECTION OF FEATURAL IMPERFECTIONS. By Charles C. Miller, M. D. Second Edition, enlarged. Including the description of numerous operations for improving the appearance of the face. 160 pages; 96 illustrations. Prepaid, \$1.50. Published by the author, 70 State street, Chicago.

The second edition of this work contains the numerous operations which the author has found useful in the correction of featural deformities. The various surgical procedures are made painlessly after infiltration—the technique of which is described. The book contains ninety-six illustrations; is interesting, and gives an excellent idea of the surgical principals which have yielded such satisfactory results for Dr. Miller.

BACTERIAL FOOD POISONING. A Concise Exposition of the Etiology, Bacteriology, Pathology, Symptomatology, Prophylaxis and Treatment of So Called Ptomain Poisoning. By Prof. A. Dieudonne, M. D., Munich. Translated and edited by Charles Frederick Boldouan, Department of Health, City of New York. E. B. Treat Co., New York. 1909.

This is an excellent work on a subject that should be full of interest to the average physician.

It gives evidence and careful study and critical analysis of numerous outbreaks of poisoning from the injection of food stuffs innocently or otherwise supplied by the trade. In many the slaughtering of the sick or dying cattle was proven and the character of the active organisms discovered.

The danger of fish and mollusc poisoning are shown, together with those of canned goods, ice cream and cheese.

In these days of pure food agitation this subject is occupying considerable attention and this contribution will be welcomed by many.

The Ohio State Medical Journal

PUBLISHED MONTHLY BY THE OHIO STATE MEDICAL ASSOCIATION

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N. P. OGLESBY, M. D., Columbus, Advertising Manager

THE NEXT ANNUAL MEETING.

The sixty-fourth annual meeting of the Ohio State Medical Association will be held in Cincinnati on the 5th, 6th, 7th of May, and all indications point to a magnificent meeting.

The local committee of arrangements stands ready to vouch for the most convenient and agreeable arrangements for the meeting that have ever been made, and cordially invites the entire Association to come and enjoy the good things prepared for it. These include a scientific program of unusual interest, one of the very best in years, comfortable quarters of the meetings, and unexcelled hotel accommodations.

As stated elsewhere, all of the meetings will be held in the magnificent new Hotel Sinton, which insures a great saving of time and the avoidance of much confusion in the seeking of the various meeting places, so often so troublesome and unavoidable.

This will be the first visit of the Association to Cincinnati since 1901, and the local profession is seeking to make this meeting one worthy of its great city and of our Association. The arrangements are ideal, the plans for entertainment are most hospitable, the invitation to come is most hearty and it is to be hoped that members of the medical

profession will respond in the same spirit and attend *en masse*. The invitation is given not only to the members of the Association; let all physicians come. Urge your friends who are not members to attend this meeting and the chances are that they will not want to remain out of the fold after seeing what the Association means and what it is doing.

On another page will be found a preliminary program which will give an excellent idea of the unusual character and practical value of the papers to be presented. Particularly note the special addresses of the guests of the meeting, and see if you can afford to stay away.

The railroad facilities make Cincinnati accessible from all parts of the state, so let everyone resolve to attend this meeting if possible. It is a good thing to get away from work occasionally, and when you can combine the advantages of a little change and relaxation with such an opportunity to hear the papers which will be presented this year, listen to and take part in their discussion, and a little social foregathering with your fellow practitioners, it is too good a chance to miss. Now is the time to make your plans; let this meeting be a record breaker!

HOSPITALS FOR THE INSANE.

We have before us the report for three years of the Pathological Department of the Central Indiana Hospital for the Insane, located in Indianapolis, and feel that our sister state is to be congratulated upon the excellent showing made in this institution.

The volume contains nearly 400 pages of closely printed material and indicates what may be accomplished in an institution, the real intent of which is conceived to be a *hospital for the treatment of the insane*, rather than as too often appears to be the case, a mere place for their detention. In the latter the main object would seem to be the attainment of the minimum per capita expense for maintenance.

In the report of the Indiana Hospital above named the progressive superintendent, Dr. Geo. F. Edenharter, states his ideas of what should be contemplated as the scope of such an institution. First, he places the utmost importance upon a thoroughly equipped pathological department. He states that if he were to organize an insane hospital he would build the above department first. In other words he "would deliberately place the new institution in such a position that the reception of patients or other business could not commence until every preparation had been made for the scientific prosecution of the medical work, and this as complete as the most advanced thought and modern method could make it." He urges this on the ground of the necessity for thorough study and diagnosis of every case as the basis of treatment: "Restoration of the case depends upon a thorough understanding of the disease and its intelligent treatment. The earlier the restoration is accomplished the more economical will be the administration."

Secondly, he maintains that the entire medical resident staff should take part in such scientific work, under a competent pathologist, for its own self improvement

and the better medical care of the patients resulting.

Third, he urges the value of holding clinics for medical students in that better equipped physicians will be graduated, who will be better in mental and nervous diseases.

Fourth, he believes that every state institution of this sort should be a center for scientific work "around which the members of the local profession may gather and obtain information concerning the diseases with which we contend in order that they may institute proper method of relief and possibly prevention." By such improvement of the general profession along these lines he very rightly believes that a certain amount of the prophylaxis may be inaugurated; that cases will be recognized in their incipency and oftentimes the proper treatment may save the state the care of chronic and incurable patients.

In carrying out these ideas the Central Indiana Hospital possesses one of the most complete and attractive laboratories that we have ever seen. The resident staff by a rotation service, all takes part in the laboratory work, and is made up of exceedingly well equipped young men. Clinics are regularly held for the medical students of Indianapolis, and a pamphlet enclosed in the report gives a splendid course of lectures extending from September to March, to which the local profession is cordially invited.

The report of the pathologist includes abstracts of 147 carefully described autopsies, 337 clinical histories, a resume of the more important clinical features, and eight, excellent papers read before medical societies.

In comparison with this record we fear that some of our Ohio institutions will not appear in a favorable light. We have heard it stated in one, a well equipped and expensive laboratory is already, or is about to be, closed. In another, a recently appointed trustee, a physician, informed us that on as-

suming his duties he could not find even a test tube in the hospital and clinical histories and physical examinations appeared to be quite unknown.

In a third of which we have cognizance, there is (or was) a fair laboratory, but whether anything is ever done there the writer is unable to say, as the medical profession never hears of any results of investigations therein.

In some of our hospitals for the insane excellent work is being done beyond question, but in many there is room for improvement along the lines laid down in Indiana.

One step in advance will be the securing of the appointment of progressive physicians on the boards of trustees of these institutions. This has been advocated by the State Association and should be followed up energetically.

EDITORIAL NOTES

SPECIAL NOTICE.

The Journal has just entered into an agreement with the American Medical Association to act as agent in securing new members in Ohio. This should result in a considerable increase in our membership in the A. M. A., and will also benefit the Journal to the extent of twenty per cent commission.

The great work that is being accomplished by the national organization is too well known to need comment; and it *must be carried on*. Is there a physician today that does not realize that great changes are taking place in the practice of medicine? Whatever the causes, preventive medicine, better sanitation, education or dissatisfaction of the laity, and the like, the fact remains that we are in a transition period, and the one who would survive must adapt himself to the new conditions. He must keep in touch with medical developments and medical progress; he must unite with and support the organization movement. This is no time for quibbling; serious conditions confront us, and the American Medical Association is doing its best to seek solutions to the problems of the day. It is a duty every physician owes himself, his professional brethren and the community in which he practices to become a member of the State and National Associations.

The next annual meeting will soon convene in Atlantic City. Many will wish to take this opportunity of combining the profits of attending the meetings and the pleasure of visiting the greatest seaside resort in the world. If you are not members, you will find it much pleasanter to become so before the meeting. Join now, and send us your application. If your neighboring friends in the profession have not joined, urge them to do so at once. If they are not members of either the State or National associations, seek to show them the error of their ways, their dereliction from absolute duty, and bring them into both organizations at once if possible. An application blank will be found in the advertising pages; fill in, cut out and mail to The Journal.

Dr. Charles A. L. Reed has addressed his chief political supporters in and out of the medical profession of Ohio as follows:

"I take advantage of the occasion offered by the adjournment of the Sixtieth Congress and the conclusion of President Roosevelt's term of office, to address you on a subject somewhat personal to myself.

"At the instance of my profession, I have devoted a large part of my time for nearly twenty years to its activities in the interest of the people. I have tried to respond to every demand that has thus been made upon me, however great the sacrifice involved on my part. What I have done I have done cheerfully, and I confess that I look with satisfaction on the results that have been achieved in organization and in the extension of our influence at home and abroad largely as a result of labors with which, in connection with others, it has been my privilege to be identified.

"I feel, however, that I have now earned my right to exemption from further service in this capacity, and that I can with propriety ask to be permitted to follow my desire and purpose to devote my time, hereafter, exclusively to my surgical practice.

"Again thanking you for your loyal support and co-operation in the recent Senatorial campaign and forespeaking your continued interest, as I pledge my own in a personal way, in everything that will promote the welfare of the people, I am,

Very sincerely,

"(Signed) CHARLES A. L. REED."

THE NEXT ANNUAL MEETING.

The 1909 meeting of the Ohio State Medical Association will be held on the 5th, 6th and 7th of May in Cincinnati.

This will be the sixty-fourth annual meeting and from the interest manifested and the prepara-

tions being made, this should prove to be the best meeting the Association has ever held.

The local committee has not fully completed its preparations, but the plans outlined promise that the time spent in attending this session will be most profitably and enjoyably employed.

HALLS.

All of the meetings, general sessions, section meetings, House of Delegates, smoker, banquets, everything, will be held under one roof.

The magnificent new Hotel Sinton is large enough to accommodate, and do so royally, all of the meetings at one time. There will be no conflict nor confusion as to the various meetings. It will not matter if the weather be good or bad; no time will be lost in going to and from the sessions. If one secures rooms in this hotel one will be on the ground all of the time. The hotel is one of the finest in the middle west, and we cannot remember that ever the prospects for the comfort and convenience of the members of the Association appear so thoroughly arranged for as this year.

On account of the large crowd which will undoubtedly wish to secure accommodations at the Sinton it will be just as well to write at once for room. Other hotel accommodations will be found at convenient distances.

PROGRAM.

A preliminary program is given below which, while subject to some minor changes, will give an idea of the unusually high character of the papers which will be presented.

SPECIAL ADDRESSES.

Special attention is directed to the addresses to be made by the guests of the Association. The names of these distinguished members of our profession speak for themselves, and their presence will greatly enhance the interest of the program, and promise great pleasure and profit to those who attend. These will include:

In Medicine—"When Should Gastric Ulcer be Treated Surgically; When Medically," Bertram W. Sippy, M. D., Chicago.

In Proctology—"Colopexy for the Relief of Otherwise Incurable Intestinal Ptoxis, Causing Constipation and Autointoxication," Samuel G. Gant, M. D., New York City.

In Genito-Urinary Surgery—"Diagnostic Pitfalls in Urinary Affections," Bransford Lewis, M. D., St. Louis.

Eye, Ear, Nose and Throat—"The Technic of the Modern Radical Mastoid Operation, with Sinus Thrombosis Complication. Stereopticon Illustrations," Frank Allport, M. D., Chicago.

"Further Observations in Bismuth and Other

Paste Treatments in Suppurative Diseases of the Nose and Ear," Joseph C. Beck, M. D., Chicago.

MEDICAL SECTION.

(1) "Mind and Medicine; Views of a General Practitioner," J. S. Rardin, M. D., Portsmouth.

(2) "The Significance of Pain," Geo. M. Waters, M. D., Columbus.

(3) "The von Pirquet, von Detre and Moro Methods in the Use of Tuberculin," A. Melville Crane, M. D., Marion.

(4) "Metchnikof's Theory of Immunity," L. W. Ladd, M. D., Cleveland.

(5) "The Hygienic Aspect of the Ohio River Water Supply Incident to Slack Water Navigation," S. O. Barkhurst, M. D., Steubenville.

(6) "Multiple Myeloma with a Report of Two Cases," G. F. Zininger, M. D., Canton.

(7) "The Genesis of the Non-Infectious Chronic Diseases of Middle and Later Life from Early Microbe Infection," J. B. Ballenger, M. D., Bradford.

(8) "Bacterial Therapy, Its Application and Limitation," Willard J. Stone, M. D., Toledo.

(9) "Studies on Isoagglutinins and Isohemolysins," W. L. Moss, M. D., Johns Hopkins University, Baltimore.

(10) "Report of a Case of Hodgkin's Disease, With Recurrent Fever; Review of Literature," John Phillips, M. D., Cleveland.

(11) "Diagnostic Interpretation of Enlargement of the Liver," Henry Wald Bettman, M. D., Cincinnati.

(12) "Some Clinical Aspects of Visceral Arterio-Sclerosis," J. Henry Schroeder, M. D., Cincinnati.

(13) "The Vaso Dilator Drugs and the Indications for Their Use," W. J. Conklin, M. D., Dayton.

(14) "The Diagnosis and Treatment of Ectopic Gestation," Hunter Robb, M. D., Cleveland.

(15) "The Role of the Myocardium in Chronic Valvular Diseases of the Heart," G. A. Fackler, M. D., Cincinnati.

(16) "The Binding of the Complement in the Diagnosis and Treatment of Syphilis and Report of Cases," Chas. W. McGavran, M. D., Columbus.

(17) "The Need of Better Provisions in Ohio for the Care and Treatment of Acute Mental Diseases," H. H. Drysdale, M. D., Cleveland.

(18) "The X-Ray Examinations of the Stomach and Colon," Sidney Lange, M. D., Cincinnati.

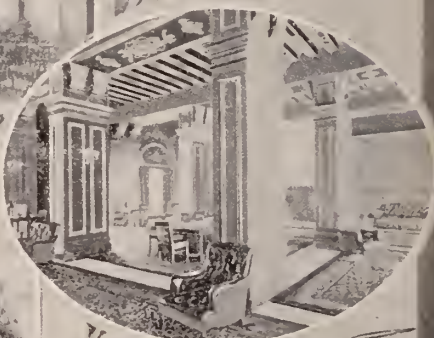
(19) "Heart Tones and Heart Murmurs. Lantern Illustrations." John E. Grieve, M. D., Cincinnati.



CONVENTION HALL



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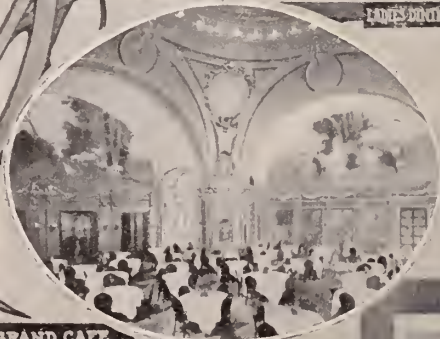
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GRAND CAFE

Oration in Medicine—"When Should Gastric Ulcer be Treated Surgically; When Medically," Bertram W. Sippy, M. D., Chicago.

SURGICAL SECTION.

"Chronic Pancreatitis," C. N. Smith, M. D., Toledo.

"Cancer of the Uterus," J. H. Jacobson, M. D., Toledo.

"Cancer of the Breast," Geo. M. Todd, M. D., Toledo.

"Melancholia Arising from Disease of Pelvic Organs," W. H. Humiston, M. D., Cleveland.

(Title unannounced), Hunter Robb, M. D., Cleveland.

"A Comparative Clinical Report in the Treatment of Hypertrophy of the Prostate Gland," W. E. Lower, M. D., Cleveland.

(Title unannounced), James U. Barnhill, M. D., Columbus.

"Methods of Diagnosis in Surgical Affections of the Kidneys," Jas. Ransohoff, M. D., Cincinnati.

(Title unannounced), F. E. Bunts, M. D., Cleveland.

(Title unannounced), L. G. Bowers, M. D., Dayton.

"Shock and Concussion in the Relation to Subsequent Neuroses," Frank Warner, M. D., Columbus.

"The Surgical Value of the Leucocyte Count," Fred Fletcher, M. D., Columbus.

"On the Factor of Safety in Abdominal Operations," Geo. W. Crile, M. D., Cleveland.

"Cardiospasm," H. S. Plummer, M. D., Rochester, Minn.

SECTION ON OBSTETRICS AND PEDIATRICS.

OBSTETRICS.

(Title unannounced), W. D. Inglis, M. D., Columbus.

(Title unannounced), Park L. Myers, M. D., Toledo.

"Recognition and Treatment of Pre-eclamptic Toxemia," F. S. Clark, M. D., Cleveland.

"Some Points in the Diagnosis and Treatment of Eclamptic Toxemia with report of Vaginal Cesarean Section in the Pre-eclamptic Stage," H. A. Skeel, M. D., Cleveland.

PEDIATRICS

"Perineal Herpes in a Case of Pneumonia in an Infant," Jno. Phillips, M. D., Cleveland.

"Cyclic Vomiting in Childhood," Alfred Friedlander, M. D., Cincinnati.

(Title unannounced), O. H. Sellenings, M. D., Columbus.

(Title unannounced), A. M. Steinfeld, Columbus.

"Adenoids," G. C. Schaeffer, M. D., Columbus.

(Title unannounced), Frank Lamb, M. D., Cincinnati.

(Title unannounced), J. M. Moore, M. D., Cleveland.

(Title unannounced), Ernest Scott, M. D., Columbus.

"The Problem of the Obstetrician in Cases of Hydrocephalus," Wm. Gillespie, M. D., Cincinnati.

O. P. Geier, of Cincinnati, will give an illustrated lecture on Wednesday evening from 8 to 9, on some phases of the milk question.

Program of the Section on Dermatology, Proctology and Genito-Urinary Diseases:

Wednesday, May 5, 1:30 p. m.

PROCTOLOGY.

Address by the Chairman.

"Pruritus Ani," Walter Irvin Le Fever, M. D., Cleveland.

"Colopexy for the Relief of Otherwise Incurable Intestinal Ptosis Causing Constipation and Autointoxication," Samuel G. Grant, M. D., New York City.

"The Rectal Tube; Its Uses and Abuses," U. S. Grant Deaton, M. D., Toledo.

"The Practical Treatment of Hemorrhoids," Wells, Teachnor, M. D., Columbus.

"Some Observations on the Treatment and Management of Hemorrhoids," Daniel W. Shumaker, M. D., Canal Dover.

"Acquired Angulation of the Sigmoid," B. Merrill Ricketts, M. D., Cincinnati.

"Fistula in Ano, with Special Reference to Tuberculosis," George B. Evans, M. D., Toledo.

"Pelvi-Rectal Abscess," Justin M. Waugh, M. D., Cleveland.

Thursday, May 6, 9 a. m.

GENITO-URINARY SURGERY.

"Gonorrhea; Translation of Prof. Finger's Monograph," Myron Metzenbaum, M. D., Cleveland.

"Gonorrhea in the Family," T. M. Reade, M. D., Springfield.

Address by the secretary.

"Ureteral Calculi," Charles Melvin Harpster, M. D., Toledo.

"Senile Catheterization," J. C. Tritch, M. D., Findlay.

"Vesiculitis Seminalis," S. J. Wright, M. D., Akron.

"Plastic Surgery for the Relief of Cirrhosis of the Bladder Orifice, with Report of Four Cases," Robert S. Walker, M. D., Toledo.

Thursday, May 6, 2 p. m.

General Meeting.

Annual Address. Genito-Urinary Surgery.

"Diagnostic Pitfalls in Urinary Affections,"
Bransford Lewis, M. D., St. Louis, Mo.

Genito-Urinary Surgery.

"A Further Report of Tuberculosis of the Kidney," William E. Lower, M. D., Cleveland.

"Case Report," Sylvester J. Goodman, M. D., Columbus.

"Phosphatic Casts of Unknown Origin, Complicating Gonorrhea, with Report of Cases," Frank Oakley, M. D., Cleveland.

"The Diagnosis and Treatment of Vesical Calculi in Children," C. D. Kurtz, M. D., New Philadelphia.

"Tuberculosis of the Testicle, with Case Reports," Robert C. M. Lewis, M. D., Marion.

"Case Reports of Traumatic Lacerations of the Urethra, the Operation for Same, with the Results," Homer H. Heath, M. D., Toledo.

"Palliative Treatment of Prostatic Hypertrophy," M. D., Bellefontaine.

Friday, May 7, 9 a. m.

DERMATOLOGY.

"Some Thoughts Upon Dermatology," David Moury, M. D., Bellefontaine.

"Acne Vulgaris, with Special Reference to Its Etiology and Treatment," William O. Roop, M. D., Dayton.

"The Medical Treatment of Acne," William Sampliner, M. D., Cleveland.

"The Therapeutic Test of Syphilis," Jeremiah Metzger, M. D., Toledo.

"Diagnosis and Treatment of Syphilis, with Lantern Demonstration," M. E. Heidingsfeld, M. D., Cincinnati.

"The Treatment of Syphilis by Deep Injections," A. Ravogli, M. D., Cincinnati.

"The Non-Operative Treatment of Cancer," Eaton Holbrook, M. D., Lebanon.

"Reports of Some Rare Skin Cases," Charles J. Shepard, M. D., Columbus.

"Angioneurotic Oedema, with Report of Two Interesting Cases," Richard A. Bolt, M. D., Cleveland.

"Case Report," A. W. Nelson, M. D., Cincinnati.

Program for the Eye, Ear, Nose and Throat Section:

Wednesday, May 5, 2 p. m.

(1) "The Etiology of Senile Cataract," Chas. Lukens, M. D., Toledo. Discussion opened by W. H. Snyder, M. D., Toledo.

(2) "Ocular Signs of Arterio Sclerosis," Wm.

E. Bruner, M. D., Cleveland. Discussion opened by W. E. Shackleton, M. D., Cleveland.

(3-a) "Observations on Major Smith's Operation for Cataract," J. W. Millette, M. D., Dayton.

(3-b) "Demonstrations of Steps of the Smith Cataract Operations," D. W. Green, M. D., Dayton. Discussion opened by D. T. Vail, M. D., Cincinnati.

(4-a) "Ophthalmia Neonatorum from the Standpoint of an Obstetrician," Wm. E. Gillespie, M. D., Cincinnati.

(4-b) "Blindness in Hamilton County, With Special Reference to Ophthalmia Neonatorum. Stereopticon Illustrations," Louis Stricker, M. D., Cincinnati. Discussion opened by S. C. Ayers, M. D., Cincinnati.

(5) "Treatment of 'Choked Disc,' with Special Reference to Decompressing Trephining," A. R. Baker, M. D., Cleveland. Discussion opened by Herman Hoppe, M. D., Cincinnati.

Wednesday, May 5, 8 p. m.

"The Technique of the Modern Radical Mastoid Operation, with Sinus Thrombosis Complication. Stereopticon illustrations," Frank Allport, M. D., Chicago.

"Further Observations on Bismuth and Other Baste Treatments in Suppurative Diseases of the Nose and Ear," Joseph C. Beck, M. D., Chicago.

Thursday, May 6, 9:30 a. m.

(1) "Some Advantages of the Submucous Incision for the Reduction of Hypertrophied Turbinals, with Report of Cases," C. P. Linhart, Columbus. Discussion opened by A. B. Nelles, M. D., Columbus.

(2) "Reflex Vasomotor Disturbances of the Nasal Mucous Membrane," F. W. Blake, M. D., Columbus. Discussion opened by A. B. Thrasher, M. D., Cincinnati.

(3) "New Instruments and Methods in Removing the Faucial Tonsil," Mark D. Stevenson, Akron. Discussion opened by Walter E. Murphy, M. D., Cincinnati.

(4) "Method of Opening the Antrum Through the Auditory Meatus, as the First Step in the Mastoid Operation," Samuel Iglauer, M. D., Cincinnati. Discussion opened by Wm. R. Dabney, M. D., Marietta.

(5) "The Extention of Suppuration from the Middle Ear Through the Internal Ear to the Brain," John A. Thompson, M. D., Cincinnati. Discussion opened by C. R. Holmes, M. D., Cincinnati.

(6) Case Reports, Exhibits, Specimens, etc.

(a) "Report of Two Cases, Torticollis of Ocular Origin," Victor Ray, M. D., Cincinnati.

(b) "An Unusual Hypertrophy of the Conjunctiva," F. W. Blake, M. D., Columbus.

Thursday, May 6, 3:30 p. m.

Ear Clinic, City Hospital. Frank Allport, M. D., Chicago.

(Program of Nervous Section not received.)

CORRESPONDENCE

Columbus, O., March 15, 1909.

To the Editor of the Ohio State Medical Journal:

It has been brought to my attention that one Jacob Fisher has brought out a second edition of

his extraordinary literary production, in which he has made a most unwarranted use of my name. I learned that he purposed to mention my connection with this case just before the first edition appeared, and I absolutely forbade any such use of my name. The second edition has appeared and without my knowledge or consent there appear the objectionable features which were eliminated from the first edition. I desire to protest my innocence and total disapproval of any such apparent meretricious advertising.

(Signed) JOHN DUDLEY DUNHAM.

MEDICAL ECONOMICS

SCHOOL INSPECTION.

The following bill was enacted by the General Assembly, and is now a law:

Be it enacted by the General Assembly of the State of Ohio:

Section 1. That Section 4018 of the Revised Statutes of Ohio be supplemented as follows:

Sec. 4018-a. Any board of education in a city school district *may provide for the medical inspection of pupils attending the public schools, and for that purpose may employ competent physicians and nurses and provide for and pay all expenses incident thereto from the public school funds, or may by agreement with the board of health or other board or officer performing the functions of a board of health for such city, provide for medical and sanitary supervision and inspection of the schools which are under the control of such board of education and of the pupils attending such schools by a competent physician selected by the parent or guardian of the child, but in case of failure on the part of the parent organization, then, by the district physicians and other employees to be appointed by such board of health, and any board of education in a city district making such agreement shall have power to provide and pay compensation to the employees of the board of health in addition to that provided by the city.*

This enactment empowers the school boards of Ohio cities to inspect pupils of the public schools. Parochial and village schools are not provided for. Any town of less than 5,000 population is a village.

The amendments made in committee, one in the House and the other in the Senate, are italicized.

It is also noted that these amendments are in conflict with other provisions in the bill. In the

first instance the authority and supervision of the health board is eliminated; in the other amendment, the parent or guardian is given the authority to select his family physician to take the place of district physicians or school inspectors. There are provided as many family physicians, acting as inspectors, as there are families with school children in the pay of the school board. Such travesty on official action is evidently unconstitutional.

The mooted question as to whether the health board or school board should be clothed with authority to inspect school children seems to be settled for Ohio by Senate Bill No. 120. Without favoring either side in this controversy, it is observed, that the four days at the close of the session, in which this measure was rushed to enactment, did not afford notice to those interested as to what was being accomplished.

The contradictions and absurdities which have lodged in this bill, by hook or crook, afford further evidence of misdirected effort. The result is botch legislation for which the State Committee is not responsible.

Despite the defects of the school inspection law, as now enacted, it will serve as an entering wedge to lead to something more satisfactory. The law is not mandatory, and doubtless there will be but very few cities to operate under its authority. This movement is educative and stimulating. It is an important public health measure. Many sanitarians and educators are interested. The subject has been discussed in medical and educational societies. There is only needed concentration of effort to endorse a bill best suited to attain the ends in view. The Auxiliary Committee is requested to gather a consensus of opinion of component societies on this subject and be prepared to help solve this problem at the next joint meeting with the State Committee.

ANOTHER MEDICAL CULT.

Andrew McConnell, for many years a clergyman in New York City, a native of Toronto, appeared in Columbus the first of March. Two weeks in advance the papers proclaimed his coming. He was heralded as the President of the Society of Universal Science and the proprietor of the theory that the basis of life is electricity.

This alleged Scientist and his electricity theory flattened out before a small audience as he was introduced by the Peruna Advertising Fakir. Rev. J. A. McGraig, also of Toronto, vouched for his friend McConnell and his cures. A series of lectures was given, leading up to the scheme of forming a class at \$25.00 per capita. The doctrine of self-treatment (auto suggestion), according to the new doctrine, is placed in the hands of these neophytes and prospective "healers."

These men of religion side step their profession in order to teach medicine, the transition is made without scientific pursuit. They institute a medical college, constitute its faculty and graduate their students.

The Toronto ministers are intelligent men, but their conduct emphasizes the claim that the clergy as a class is more susceptible to error in matters of scientific import than other professions. Their influence renders their espousal of medical cults dangerous to the public good and deterrent to religious progress.

THE PHYSICIAN AND THE NURSE.

Is nursing a trade or a profession? Such is the question that has been raised in the East, owing to the differences that have arisen between the physician and the nurse. The complaint of the physicians is that the nurses have been disposed to exaggerate their functions, to criticise treatment and even to disobey orders; and, while assuming such importance to refuse to respond to any call that may come. One, it is explained, will refuse to do night work, another will decline to serve patients with contagious diseases, a third will object to going where there are children in the family and a fourth will reject service in cases of nervous affection.

The physician, on the other hand, regards it as his professional duty to go wherever and whenever he is called and to do what he can, no matter what the surroundings. His view is that the nurse should not only act as the assistant to the physician in charge, obeying directions and co-operating heartily, but should also put aside whims and prejudices and serve where there is

need of her. That is a view which seems in all respects sound. The physician, if there is one, is in supreme command; the nurse, if there is one, must be his willing assistant. Moreover, it seems that the nurse, if she is to claim professionalism, must hold herself ready for service anywhere. In that attitude there is nobility; in anything short of it, there is sordid commercialism.—Columbus Dispatch.

The above from a lay publication hits the professional nail on the head. The complaint of physicians that nurses are trespassing upon medical ethics and practice is the fruitage of their own efforts, misdirected efforts, in teaching the nurse too much of medical science and not enough of the nursing art.

The only form of cancer which attacks the tongue is epithelioma.

The more recent the paternal syphilis, the more certain is infection of the offspring. The children are often stillborn.

Infections of the upper lip (especially carbuncle) are very dangerous, as thrombophlebitis may arise and track up into the cranium.

Creeping infants may gather wood splinters or needles in their hands or knees, and abscesses in those localities should suggest such an etiology.—Brickner.

The tuberculin tests furnish the most reliable means of diagnosis of tuberculosis in children. Examination of the sputum, as usually practiced, is of almost no aid in the diagnosis of early pulmonary tuberculosis in children.—Miller.

Uncomplicated herniae are rarely extremely sensitive. Extreme tenderness, either in the tumor or surrounding parts, during the manipulation of a hernia, should always cause the surgeon to suspect that there is some condition present other than the rupture.—Gramo.

In children of tubercular parents, who live in close association with such parents, a large proportion (over 50 per cent) become infected with tuberculosis. The earliest manifestations of such tuberculosis are not to be found in the superficial glands or in the bones and joints, but in the lungs.—Miller.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

SOME VAGARIES OF THE OBSTETRICIAN.

Under the above caption Morse (Bost. Med. and Surg. Jour., Jan. 28, 1909, p. 93) views the vagaries of the obstetrician from a pediatrician's standpoint. As most physicians are perforce interested in obstetrics his remarks are worth noting. The first fallacy he would disabuse us of is the supposed dangers of a patent foramen ovale. He cites a case in which the age of 52 years was attained by a man having no auricular septum and in whom there were no symptoms whatever. "It is safe to say, therefore, that if a new-born baby is cyanotic, the one thing that is not causing the symptom, cyanosis, is a patent foramen ovale."

Of phimosis he says:

"Before speaking of the treatment of phimosis it is well to determine what is phimosis, or better, what is not phimosis. The work of Bokai in this connection in 1860 seems to have been very generally overlooked or forgotten. With the rarest exceptions the glans penis is normally adherent by epithelial agglutinations to the inner layer of the prepuce. This adherence may or may not be accompanied by an unusually long prepuce. This agglutination is a normal condition. With the growth of the parts the adhesions disappear or are broken up, and the prepuce is easily retracted. The adult condition is reached at about eight years. This normal agglutination is not properly phimosis. If this condition was phimosis, then every male infant is afflicted with the disease. The term "phimosis" should be restricted to the cases which persist into later boyhood, and to this condition in infancy when it is associated with symptoms of difficult micturition, such as pain and ballooning of the prepuce. True phimosis is rare; adhesions are universal."

* * *

"If a cutting operation is necessary, a slitting of the foreskin is less harmful, because it leaves the foreskin intact."

Unless there are definite symptoms of balanitis or aggravated retention of urine he "does not believe in interference" and he charges the recent epidemic of circumcision to "lack of appreciation of the normal physiological conditions" and to "exaggerated ideas on the frequency and

importance of the pathological conditions which may arise."

On feeding he says:

"I am forced to believe that obstetricians, as a class, do not thoroughly appreciate the importance of breast feeding and its advantages over artificial feeding. This is the more surprising because, as a class, they are not too familiar with the finer details of artificial feeding. It hardly seems possible, but, unless I am misinformed, there are obstetricians in Boston who tell their patients that artificial feeding is better than breast feeding, and that consequently women, or at any rate those of the wealthier classes, should not nurse their babies. I believe that this position is absolutely wrong and that such advice is not only erroneous, but almost criminal.

* * *

"They do not appreciate how much even a little breast milk aids in the digestion of cow's milk, and how much better a baby thrives if it has breast milk in addition to cow's milk, even if it gets only one or two feedings a day. Neither do they appreciate how much better able a baby is to digest cow's milk if it has had breast milk for a few months or even weeks before it is compelled to take cow's milk.

They are inclined to think entirely of the mother's well-being and to forget the baby. They are too willing to yield to the desire of certain unnatural mothers to shirk their responsibilities in order to continue their amusements and social duties. They are apt, too, to forget how late the milk may be in appearing, and to give up the attempt at breast feeding too soon. They apparently fail to appreciate how much may be done to improve the quality and quantity of breast milk.

The attempt should always be made to feed the child at the breast. Almost the only contraindications are tuberculosis or some other serious disease in the mother. The attempt at breast feeding should not be given up unless continued trial shows that the milk cannot be regulated so as to agree with the baby, or the mother's health is being seriously impaired. The mother, and not the child, is responsible for its presence in the world. She must not be allowed to wean the baby on insufficient grounds."

Temporary feeding should be as carefully directed as any—indeed more so. He finds obstetricians inclined to give too strong mixtures. "Begin with weak mixtures and small amounts. It is very easy to increase the strength and the amount of the food if the baby is not satisfied. It is very hard to correct the disturbances set up by too large amounts of food or by too strong foods.

* * *

Another thing, which I have noticed is that obstetricians do not, as a rule, understand what creams are. A cream is any milk containing more than 4% of fat. The amount of fat is, of course, greatest in the top ounce of a quart of milk which has been set, and gradually diminishes in each ounce from the top down. The visible cream on milk which has set for eight hours or longer, the so-called "top cream," contains about 16% of fat. The upper quarter of milk set for the same time contains about 10% of fat. Many of the stock formulæ in use in Boston are figured on the upper quarter, containing 10% of fat. Many men confuse the top cream and the upper quarter and use top cream in place of the upper quarter. They consequently often have more fat in their mixtures than they realize.

The custom of many practitioners of turning the feeding of the baby over to the nurse is mentioned only to be condemned. This practice is apparently not common among the better obstetricians in this vicinity."

"Jaundice due to sepsis ought not to be mistaken for icterus neonatorum, because of the elevated temperature, the impairment of the general condition, the presence of hemorrhages, cyanosis and so on.

* * *

"Icterus neonatorum is almost a physiological condition. Nevertheless, it is a very common practice, to give calomel in this condition, presumably with the object of increasing the secretion of bile. It is irrational to give calomel for this purpose, however, as it has been conclusively proved that calomel does not increase the secretion of bile."

"The symptoms of auto-intoxication are most often misinterpreted. I have seen fever, often high, rigidity, convulsions and marked circulatory disturbances as the result of this toxic absorption. In some cases cerebral hemorrhage has been strongly suggested. The symptoms are entirely relieved by cleaning out the intestine, best with castor oil. In these cases, as always, it is advisable when giving castor oil, to give a

good-sized dose; not less than a teaspoonful,—better, two teaspoonfuls."

"I cannot, however, refrain from mentioning the importance of the thorough examination of the baby for the presence or absence of congenital malformations. This examination should include the heart. There seems to be a common impression among the obstetricians of Boston and vicinity, that a cleft palate is never found without a hare lip. There is nothing in the embryological development of these parts to justify this impression. In fact, a study of the development leads us to expect otherwise. It is important, therefore, to examine the mouth and not to take it for granted that there is no cleft palate because there is no hare lip."

DANGER FROM WARTS AND MOLES.

Babler (Jour. Missouri State Med. Assc., Jan., 1909, p. 405) from a series of cases reported in detail and from a study of literature comes to these conclusions:

1. Warts and moles, especially when situated in exposed parts of the body, or when subjected to frequent irritation should be excised as soon as possible, lest they become malignant and destroy the life of the individual.

2. Just as soon as a wart or mole begins to rapidly increase in size, it is almost always already a malignant growth.

3. The secret of success lies in the excision of the blemish before malignant changes manifest themselves.

4. When wart or mole shows evidence of malignant change, the only hope of success in the treatment lies in *excision of all of the diseased tissues*. "Recurrence" signifies failure to remove all of the diseased tissues at the primary operation."

GLYCERIN ADJUVANT MAKES SILVER NITRATE APPLICATIONS LESS PAINFUL.

Harman (British Med. and Surg. Jour., Sept. 12, 1908,) uses from ½ to 2% sol. of silver nitrate in a 15% solution of glycerine in distilled water. This increases the specific gravity of the silver solution and enhances its penetration by reason of the hygroscopic powers of the glycerine. The glycerinated preparation is distinctly less painful. The silver nitrate does not lose its caustic effect, but the pain is reduced by its slower action when thus prepared.—Via Therapeutic Gazette.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKEE, M. D., Collaborator.

"Appendicitis with Abscess Formation, Based Upon a Study of Forty-eight Cases," was the subject of a paper before the Cincinnati Academy of Medicine on March 8, by H. J. Whitacre, B. S., M. D.

The literature of appendicitis is quite voluminous, yet papers are few upon this particular phase of the subject. The author has studied the etiology, pathology, symptoms, treatment and late results in that type of suppurative appendicitis in which a circumscribed abscess has formed and is adherent to the parietal peritoneum.

In this series, thirty-four of the cases presented an abscess in the right iliac fossa, six were in the lumbar region, one in the subphrenic region, four near Poupart's ligament, in three cases the abscess occupied the entire lower half of the abdomen, in one case the abscess was to the left of the median line, and in one case it was directly behind the umbilicus.

The size of these abscesses varied from that of a peach to that of a seven-months' pregnancy. The amount of pus removed varied from two drachms to two quarts.

The age of the patients varied from two to forty-eight years; 78% were under thirty years of age.

The symptoms in many cases were extremely atypical. As a rule there was a definite subsidence in the symptoms of an acute attack of appendicitis, in many cases even to the normal, then there was a recurrence of fever, pain and rigidity and the appearance of a tumor mass.

The author has recommended the simple drainage of abscess of this type by a muscle split or gridiron operation and the use of a rubber tube only. This type if incision together with fairly early removal of drainage has given no post operative hernias.

In fourteen cases a fecal fistula developed. In a majority of these cases this fistula persisted for a few days only while in one it lasted for two years and required a secondary operation.

In ten patients a secondary operation became

necessary because of severe appendix symptoms. The appendix was found in all of these cases, and in none did it show great gross damage. In six additional patients a bad appendix is giving definite symptoms and should be removed.

This series would therefore show that in 34.8% of the cases secondary trouble had developed in the appendix left behind. These facts would seem to justify the conclusion that the appendix should be removed by a secondary operation to simple drainage.

This paper in its complete form will be published in the Cincinnati-Lancet Clinic.

The Brown County Medical Society met at Georgetown in the new City Building on Wednesday, March 24, 1909. Program: Social greetings. Come and rub up against your neighbors. Business. Election of officers, etc. Paper, Joseph G. Clemmons, New Hope. Paper, "Treatment of Surface Wounds," Robert Heterick, Georgetown. Discussion.

The Butler County Medical Society held its regular monthly meeting at Middletown, Ohio, March 25, 1909. "The Surgical Treatment of Puerperal Eclampsia," was the subject of a paper by M. A. Tate, Cincinnati; J. C. Sexton, of Rushville, Ind., read a paper on "Cancer of the Stomach; E. W. Mitchell, Cincinnati. "The Climatic Treatment of Tuberculosis"; P. S. Conner, Cincinnati, "Early American Surgery; Dan Millikin, Hamilton, Ohio, "Pernicious Medical Nomenclature." Everybody enjoying having with them Dr. Conner, as this was his last appearance on this earth among his medical brethren whom he loved so well. His address was much appreciated, also, and every one who heard him felt that his hopes for remaining yet a little while with us were increasing day by day. The absence of Dr. Reamy, who so often met with this society, was also felt by all present and many were the good words spoken of him.

A CASE OF EXSTROPHY OF THE URINARY BLADDER.

E. O. Smith presented to the Cincinnati Academy of Medicine, March 9, the following patient: Mr. H. J., age 24 years, height 5 feet 4 inches, weight 160 pounds, well developed and enjoys perfect health but for the annoyance and inconvenience due to the absence of the urinary bladder. He has a congenital exstrophy of the urinary bladder, with only a very small rudimentary penis, a complete epispadias, and a non-union of the pubic bones. The testicles and scrotum are normal.

Three surgical attempts have been made to improve his condition. The first operation was performed when he was 3 years old, the second at 7 years of age and the third at 11. The operations have resulted in lessening the area of mucous membrane that was exposed, and the course of the urine is such now that he can collect it all in a rubber urinal when he is standing, but when in the recumbent posture the urine escapes at the sides of the urinal. He prefers to go on through life as he is than to take a chance with any other operative procedures.

He has never suffered from infection of the urinary tract, although the mouths of the ureters are almost in direct contact with the clothing.

This is an interesting case in that he has lived to the age of twenty-four years, is in good general health, has never had infection and is a very cheerful victim of his misfortune.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

At the meeting of the Clark County Medical Society held on the evening of March 1, there was a paper read by Will Ultes on the subject "The Clinical Significance of Albumin in Urine." The essayist dwelt especially on the fact that too much stress cannot be laid on the mere finding of albumin. But that a microscopic examination must be made before a diagnosis of any definite renal lesion is made. The paper was freely discussed and brought out some very interesting points.

Reuben Peterson, Professor of Gynaecology and Obstetrics at the University of Michigan, gave a talk before the Clark County Medical Society on the evening of March 15. Dr. Peterson's subject was, "The Superiority of Vaginal Cesarean Section over Manual or Instrumental Dilation in an Eclamptic Patient with a Rigid Cervix." The talk was illustrated with a stereopticon and was highly instructive as well as bringing out the method of procedure to be taken in a complica-

tion of this kind. It demonstrated that a complication of this nature could be met very easily and could be made readily by any general practitioner with but little danger. There was a large attendance numbering among them visitors from the surrounding counties, from Xenia, Urbana and Columbus. There was a free discussion of the subject, and after the program a lunch was served.

A. H. Vance, of Springfield, is confined to the City Hospital with a complication of diseases.

At the last meeting of the Clark County Medical Society the following were admitted to membership: J. E. Studebaker, G. D. Grant, Elba Brubaker and Frank Prince.

The regular meeting of the Montgomery County Medical Society was held Friday evening, March 5. The program was as follows: "Treatment of Functional Nervous Diseases," Drs. Everhard and Felker.

At the March 19 meeting of the Montgomery County Medical Society, the following program was given: Symposium on hygiene: "Hygiene of the Child at Home," J. F. Dolina; "Ventilation of the Home and School," R. A. Bunn; "Heating of the Home and School," E. E. Bohlander.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Pathological Section of the Academy of Medicine of Toledo and Lucas County met in regular session March 12.

Wm. J. Gillette demonstrated a number of interesting pathologic specimens, including a case of epulis, a twisted ovary and tube of unknown origin, and a sarcomatous kidney.

G. P. Hohly demonstrated several specimens of foetus with membranes at an early period.

D. N. Price demonstrated specimens of glands from a case of Hodgkins disease.

B. G. Chollett read a paper on Ricketts and reported a case. He said that Ricketts was a disease of children characterized by impaired nutrition and changes in the growing bones. The disease exists especially among the poor of the larger cities, who are insufficiently nourished and exposed to bad hygienic conditions. The diet seems to be the essential factor in the production of the disease.

The most important pathologic changes occur at the ends of the long bones and the ribs. The zone of proliferation between the shaft and epiphysis is markedly thickened, changed in color and consistency. There is an important ossifica-

tion so that the bone has not a normal rate of growth.

The disease appears gradually and may be overlooked. The gait is disturbed and there is a general soreness of the body, so that the child cries when handled. The muscles become flabby. Characteristic changes in the bony skeleton occur. A rickety rosary appears at the costal junction of the costal cartilages and the ribs. The sternum may become deformed forming a pigeon or chicken breast. A special curvature may exist. The head is large in proportion to the face and the fontanelles remain open a long time.

The disease does not kill but intercurrent infections are especially fatal. The treatment is hygienic and dietetic. Deformities should be avoided when this is possible and when already present, may be converted at times by surgical procedure.

J. H. Jacobson read a paper entitled "Uterine Scrapings and Their Significance." He illustrated his talk with numerous stereopticon slides showing normal and pathological specimens.

Dr. Jacobson said:

The practical value of the microscopic examination of the uterine scrapings in the early detection of malignant disease of the uterus is now well established. When such findings are interpreted by competent pathologists they are of the greatest value, often making the diagnosis when it could not be made in any other way.

While the chief indication for the employment of this method of diagnosis is in the early detection of malignant disease of the uterus, it is also of practical value in diagnosing the various types of inflammatory disease of the uterus.

The purpose of the paper is to bring before you a consideration of the microscopic appearance of the normal structures in the uterus, as well as the histo-pathology of the inflammatory diseases, in order that the microscopic appearance of malignant disease be better appreciated.

The vagina is lined by a thick layer of squamous epithelial cells, which in turn is continuous with the external skin. The mucosa of the vagina contains no glands, and the squamous epithelial cell lining, if reflected on the vaginal portion of the cervix, extending as high up as the internal os, where this epithelium is contained in the form of cylindrical epithelial cells. Many glands exist in the cervix and in the endometrium. These glands are tortuous, dipping down into the mucosa from the epithelial lining. These glands are also lined by cylindrical epithelial cells. The cervix is particularly rich in these glands, which empty into the cervical canal. The whole of the vaginal aspect of the cervix is covered by the squamous epithelial cells and does not contain glands. From these structures uterine cancer develops. Thus we can distinguish pathologically, as well as in early clinical cases, three varieties of the disease, all of which have distinct clinical entities and which run a dissimilar clinical course regarding their modes of extension, malignancy, prognosis,

operability and curability. These varieties of cancer of the uterus are:

1. Cancer of the cervix, in which we have two kinds, one the squamous cell carcinoma, which begins in the vaginal portion of the cervix, and the other is the cylindrical cell carcinoma of the cervix, also known as adeno-carcinoma, which begins in the cylindrical epithelial lining of the cervical canal or in one of the cervical glands.

2. Higher up we have cancer affecting the body, known as an adeno-carcinoma, beginning either in the uterine glands or in the cylindrical cells of the uterine mucosa.

3. In the fundus may also be found a condition known as malignant adenoma.

The inflammatory diseases of the uterus which must be differentiated from cancer are:

1. Ectropion and erosion of the cervix.

2. Endo-cervicitis.

3. The various forms of endometritis—(a) the glandular or hyperplastic form, (b) the interstitial or atrophic forms, (c) the mixed types.

4. Cervical or uterine mucous polyps, which are of inflammatory origin.

Transitional Forms.—The histo-pathology of these conditions can be best described from the screen.

The Medical Section of the Academy of Medicine of Toledo and Lucas County met February 19. William McK. Reed read a paper entitled, "The Preparations of the U. S. Pharmacopeia and the National Formulary as Applied to the Practice of Medicine."

Speaking of the proprietary medicine question and prescribing he said that one would naturally suppose that a subject as vital to the public welfare and so pregnant with the deepest of sciences demanding the most skilled of all operators to conduct it, would not require organization and agitation in order that it might survive and safeguard the public weal and conserve to the laity the richest and best that can be obtained from nature's storehouse, compiled in its best form and administered by the most skillful for the alleviation of the disease of our times.

The conditions that prevail in medicine and pharmacy are such as to call for universal action in almost all parts of the country and appeals to both sides to reverse their actions and adopt anew the standards of drugs and formulas as proposed by men of the highest rank in both professions.

A great many practitioners are not at all acquainted with the names of the vast majority of the preparations of the U. S. P. and N. F. The physician is not altogether to blame for this condition, for many schools have not had systematic courses of instruction in the pharmacopeia.

In closing, Prof. Reed urged that systematic instruction of the U. S. P. and N. F. preparations be encouraged in every medical school in the country.

John F. Liken read a paper entitled, "Home Versus the Factory in the Preparation of Infant Foods." Dr. Liken considered the requirements of the infant and spoke of the adaptability of the various proprietary foods to meet this requirement as opposed to modified milk. In a considerable experience, Dr. Liken has found modified milk the more serviceable. A number of case reports were given.

George Jones read a paper on "Eggs." He said in part:

The importance of eggs as food will be somewhat appreciated when it is realized that about two billion dozen eggs are produced in the United States each year—over twenty dozen to each inhabitant—and that nearly all of these are consumed in this country. This popularity is not without merit, however, for eggs are an ideal food, second only to milk, and a thorough knowledge of their composition, digestibility and nutritive value is essential.

Composition.—Although hens' eggs are most frequently used in this country, such a choice is not universal, and other varieties are prized by certain races of people. Some prefer the eggs obtained from wild birds, turtles or fish, while others consider those of alligators, lizards or serpents a rare delicacy.

As dietetists, we are not particularly interested in these unusual foods, and unless otherwise specified hens' eggs are the ones referred to in this paper. The average egg weighs nearly two ounces and is one-tenth shell, three-tenths yolk and six-tenths white. The edible part contains about 74½% water, 13% proteid, 11% fat, 1% ash and represents 65 calories. Between the yolk and white there is considerable difference in composition and nutritive value in favor of the former. The yolk contains 33% fat, white .2%; yolk 15% proteid, white 12%; yolk 49% water, white 86%; yolk 1% ash, white 6%. The white of the egg is made up mainly of ovalbumen, a proteid; the yolk of vitellin, a proteid, and palmitin, olein and stearin, fatty constituents.

Dark shell eggs do not differ materially in composition from light ones. The opinion of many that the former are richer has led unscrupulous dealers to artificially color the lighter eggs and hold them at a higher price.

Digestibility.—This term refers to the thoroughness with which a food undergoes the physical and chemical processes of digestion—i. e., its capability of being broken down into elements which may be absorbed. The popular views of digestibility as being related in some way to the rapidity of digestion or the sensations of an individual while food is in the digestive tract are of course erroneous. Generally speaking, eggs are thoroughly digested. The classical studies of stomach digestion made by Wm. Beaumont, of the army, nearly a hundred years ago gave us

much information which was subsequently corroborated by other investigators. He found that eggs required about the same time for digestion as other common foods, and that the method of preparation made some difference. Whipped raw eggs became chyme in one and a half hours, raw eggs not whipped in two hours, roasted in two and a quarter hours, soft boiled in three hours, and hard boiled in three and a half hours. Contrary to this, if the conclusion of Penholtz, whose experiments led him to believe that raw eggs remained in the stomach longer than soft boiled ones, because of their bland character. Probably the most complete study of this matter was made by Tikhvinski, of St. Petersburg, whose views correspond to those of Beaumont and others in that eggs are as thoroughly digested as meat.

He also observed that cooking makes no difference in the thoroughness of digestion, but has a tendency to delay its rapidity, calling forth more effort on the part of the digestive organs.

Nutritive Value.—Eggs are exceedingly nutritious. In this respect they compare very favorably with other animal foods, and up to 24 cents a dozen should be considered reasonably cheap from the standpoint of food economy. Ten cents in eggs at this price would purchase food at about the same nutritive value as that obtained by investing a like sum in sirloin of beef at 25 cents a pound. If, on the other hand, stew meat is bought at 5 cents a pound, the purchaser secures four times as much energy as is contained in the eggs or sirloin. When compared to the nutritive value of medicinal foods of the peptonoid, peptone, concentrated or predigested beef type, eggs are so far superior that the former class appear insignificant. It is hard to understand the popularity of these proprietary products, unless it may be found in the excessive cost, extravagant claims or beautiful packages, for, as a rule, their use results in a polite form of starvation and swindle. In defense of the medicinal foods, it may be held that they are better borne or more acceptable. Although this is frequently true, these advantages are dearly bought, for the reason that actual food content is made secondary to acceptability. This is all wrong. Nourishment should be the first requirement, and if this is observed it will be found that other difficulties yield to a close study of the art of practical dietetics. A recent analysis of eighteen samples of medicinal foods prepared by well known manufacturers showed an average nutritive value of 260 calories per pint exclusive of alcohol. The nutrients were mainly proteids and carbohydrates, and the average cost was \$1.20 a pint. Let us pause a moment and take for comparison egg albumen and sugar, blended in the same proportion as the proteid and carbohydrate of the medicinal food. Careful estimates of caloric values will reveal the fact that six eggs and one and three-fourths ounces of sugar represent as much nutritive material as is contained in a pint of proprietary food. They cost nearly 11 cents less the value of the yolks.

Preservation.—Eggs are decomposed because of the entrance of micro-organisms through their shells, and to prevent this cold storage or some method of protection from air is necessary. Fresh

eggs in cold storage at 34° F. undergo little if any change, for this temperature is sufficient to limit the activities and prevent the growth of the more common bacteria. The problem of preserving eggs by excluding air has brought forth numerous methods. German investigators several years ago conducted a series of experiments by keeping eggs for about eight months in some twenty different ways and found that when emersed in brine all were unfit for use, when wrapped in paper 80% were bad, when packed in bran or coated with paraffine 70% were bad, when emersed in solution of salicylic acid 50% were bad, when coated with shellac or collodion 40% were bad, when packed in wood ashes 20% were bad, and when coated with vaseline or emersed in a solution of water glass or lime water none were bad.

From these experiments, as well as many others, it has been found that a solution of water glass offers about the best method of preserving eggs aside from cold storage. Water glass is the common name for potassium or sodium silicate, and as obtained in the shops is in the form of a thick liquid somewhat like glycerine. One part of this to nine of sterile water makes a preserving fluid of the proper strength. The eggs should be packed in a clean, sweet vessel and the solution poured over them till they are well covered. Preserved in this way in a cool place, eggs will keep for months and often cannot be distinguished in appearance from the fresh article. It is generally conceded that they lack the flavor of newlaid eggs, but are in no way inferior in nutritive value.

Use as Food.—Eggs and the foods into which they enter are found in nearly every household, and, although their use is important, some good objections to their use have been recorded. In certain persons there appears to be an idiosyncrasy, and they are made violently sick whenever eggs are eaten. It may be that these cases popularly called "biliousness" are caused by a delayed absorption from the intestines followed by decomposition, and the production of sulphuretted hydrogen and ammonia. This would be especially liable to happen if the eggs were not perfectly fresh and could produce considerable gastro-intestinal disturbance. At other times perfectly normal individuals are made quite sick from eating eggs infected with bacteria. This is not strange, for the shell is porous and offers no more resistance to pathogenic organisms than to those which produce decomposition.

Considering the great number of eggs that are eaten raw and the danger of disease originating in this way, it would seem that this subject should be an interesting one for research, and it is to be hoped that some one will take up the work.

Although cases such as the one just referred to are authentic, they are rare and of no interest from a dietetical standpoint. As a food for the sick in conditions resulting in impaired nutrition, eggs are clearly indicated. The method of preparation for invalids is important, and this problem confronts us with almost daily regularity. They may be administered raw, soft boiled, poached or scrambled, as well as in the form of mixed foods. Eggnog, plain or modified; malted milk and egg, and milk punch, are all highly nourishing. Albuminous drinks composed of al-

bumen, nicely blended with grape or orange juice or added to lemonade, are delightful, and when properly made are relished for an extended period. Other foods, as custards, puddings, rice mush, meat omelets, etc., furnish an acceptable way of administering eggs to those who decline to take them separately.

In spite of careful preparation, however, there are some patients who tire of eggs quickly become nauseated or vomit whenever they are eaten raw. Russell has found that such cases are invariably relieved by the following:

Sodium carbonate.

Sodium phosphate, āā.....gr. 15

Aqua, q. s.....oz. 1

Sig. from 1 to 3 tsp., thoroughly mixed with the eggs before administration.

The Academy of Medicine of Toledo and Lucas County held their general meeting March 5. Prof. Alfred Scott Warthin, of the University of Michigan, was the guest of the society and spoke on the "Anti-Tuberculosis Campaign and the Responsibilities of the Layman and Physician." The address was a popular one and a large number of the laity were present.

Dr. Warthin's talk was illustrated with stereopticon views and sketches. He reviewed the etiology and pathology of tuberculosis and spoke of the many ways in which the disease could be contracted. The economic side was reviewed in detail and many tables of statistics were shown, giving the loss to the community in dollars and cents. Dr. Warthin did not speak optimistically concerning the cure of the disease. The mission of this present day crusade is prevention and that this is not impossible is shown by the magnificent figures from New York City during the past fifteen years.

The crusade in Michigan is being carried on mainly through the direction of Profs. Vaughan and Warthin of the State University. The State Tuberculosis hospital, as yet, only partially completed, is located at Howell.

The address was followed by discussion by Father Heideman of St. John's College. Mr. Egan, president of the Central Labor Union and C. P. Daniells.

The Williams County Medical Society met at Bryan, March 11. L. C. Grosh and J. H. Jacobson, of Toledo, were guests of the society. Dr. Grosh read a paper on "The Heart," and Dr. Jacobson on "Cancer of the Uterus."

Dr. Jacobson said in part:

I need not dilate upon the general hopelessness of cancer in any situation of the body. As physicians you have all had ample opportunity to observe the dire effects of this disease. Of late

years there has been an apparent increase in the number of cancer cases in general, an increase which in all probability is not a real increase, but an apparent one, due to a better understanding of the diagnosis of cancer. A diagnosis of cancer is now made more promptly and earlier than ever before. This fact, in all probability, accounts for the apparent increase of the disease.

Every clinician or physician of large experience can testify to the dismal outlook of cancer of the uterus unoperated and of the many dismal failures even when operated by the usual methods.

It is the purpose of this paper to present for discussion the early diagnosis of the disease and to emphasize what constitutes the modern operation of today in its surgical treatment. In order to properly present the subject, a few words pertaining to the histology of the female genitalia will be necessary.

The vagina is lined by a thick layer of squamous epithelial cells, which in turn is continuous with the external skin. The mucosa of the vagina contains no glands, and the squamous epithelial cell lining is reflected on to the vaginal portion of the cervix, extending as high up as the internal os, where this epithelium is continued in the form of cylindrical epithelial cells. Many glands exist in the cervix and in the endometrium. These glands are tortuous, dipping down into the mucosa from the epithelial lining. These glands are also lined by cylindrical epithelial cells. The cervix is particularly rich in these glands, which empty into the cervical canal. The whole of the vaginal aspect of the cervix is covered by the squamous epithelial cells and does not contain glands. From these structures uterine cancer develops. Thus we can distinguish pathologically as well as in early clinical cases three varieties of the disease, all of which have distinct clinical entities and which run a dissimilar clinical course regarding their modes of extension, malignancy, prognosis, operability and curability. These varieties of cancer of the uterus are:

1. Cancer of the cervix, in which we have two kinds, one the squamous cell carcinoma, which begins in the vaginal portion of the cervix, and the other is the cylindrical cell carcinoma of the cervix, also known as adeno-carcinoma, which begins in the cylindrical epithelial lining of the cervical canal or in one of the cervical glands.

2. Higher up we have cancer effecting the body, known as an adeno-carcinoma, beginning either in the uterine glands or in the cylindrical cells of the uterine mucosa.

3. In the fundus may also be found a condition known as malignant adenoma.

Relative to the malignancy of these varieties, the least malignant is the carcinoma of the body or fundus; next in order of malignancy comes the squamous cell carcinoma of the vaginal portion of the cervix, and the most malignant of all is the adeno-carcinoma of the cervix. The reason for this difference in malignancy may be found in the situation of the primary growth. We have in this case the differences in the distribution of the lymphatics of the uterus, the proximity of the bladder and rectum, and relations of the peritoneum, all of which need not be detailed here.

The causation of cancer is as yet unknown, but the great weight of clinical evidence seems to indicate that most cancers are produced by some pre-existing foci or irritation. Cancer of the uterus is no exception to this rule. In the cervix we have the irritating factors of old lacerations. In the fundus we have the various inflammatory manifestations, such as endo-metritis and polypoid formations, as predisposing causes.

The diagnosis of those cases in which we already have emaciation, cachexia, with the extension of the diseases in the broad ligaments, bladder and rectum, with its consequent hemorrhage and foul discharges, are easy of recognition and need not be considered here.

The early diagnosis is of the most vital interest and of the greatest practical importance. It is a sad statement to make and to the discredit of the medical profession that most cases of uterine cancer when referred to the surgeon for radical treatment are already hopelessly lost to the disease.

It is of interest to note the percentage of operability of all cases of cancer presenting themselves for operation.

The diagnosis of early cancer of the cervix is not difficult if the physician is always alert to the situation. The diagnosis must be based upon the presence or the beginning of some cervical induration or thickening, together with the presence of more or less hemorrhage and discharge (which is usually small in amount) and upon a microscopic examination of excised portions. If the carcinoma begins in the vaginal portion of the cervix, it takes the form of thickening of the cervical wall, of ulceration or of a cauliflower excrescence growing downward into the vagina. If it begins in the cervical portion of the cervix, the entire cervix becomes infiltrated. The growth may appear in the os, or the os may be patulous from the disease within the canal. In both of these varieties the patient will complain of some hemorrhage (or slight discharge) upon exertion of any kind, independent of the menstrual flow, and upon digital examination the indurated and thickened areas can be plainly palpated. These lesions, when found, particularly upon the seat of old cervical lacerations, should arouse the gravest suspicions. Formerly many such lesions were called ectropion and erosions of the cervix and were treated locally until the golden opportunity for cure was lost. No physician should continue to treat an erosion or ectropion of the cervix without first having excluded carcinoma. It will then be found that ectropion and erosion of the cervix is an uncommon disease, and cancer a more common one. I wish to emphasize the importance of hemorrhage as an early sign of cancer of the uterus. Accidental hemorrhages, metrorrhagics, intermenstrual hemorrhages of any kind in women after thirty-five should always demand a careful vaginal examination for the purpose of excluding cancer. This examination is especially indicated when the menopause has once been established, no matter how slight the hemorrhage.

While an early diagnosis can often be made without the aid of the microscope, yet it should be employed in nearly every case; but here I must insist upon the employment of a competent

pathologist for such diagnosis, for many mistakes have been and are being made. Conditions which are not malignant are being called carcinoma, and vice versa.

It is my opinion that the present high percentage of cures which some operators report is due to errors in microscopic diagnosis in calling conditions cancer when cancer does not exist. The arrangement of epithelial cells in the cervix, especially in the presence of ectropion and erosion, often gives a microscopic picture very similar to that of cancer, which can be differentiated only by the most experienced pathologist. For the diagnosis of carcinoma of the body of the uterus we must depend upon the presence of hemorrhage and some discharge, with some enlargement of the fundus, which enlargement, if persistent, indicate a curettage and the scrapings to be examined microscopically.

In Germany a crusade has been started, notably by Durhesen, for the purpose of educating women in the symptomatology of cancer of the uterus and in the importance of its early recognition. Nurses and midwives have been instructed and lectures given before many women's clubs. Some form of education of this kind should be carried out in this country. The women physicians and trained nurses can do much toward the education of the general public on uterine cancer, and it should be the especial duty of every family physician to instruct mothers along the same line.

Another important factor in combating this disease is the so called prophylactic treatment—that is, the removal of all foci of irritation from the uterus, such as the removal of inflammatory products from the uterus and in the repair of all lacerations in women approaching the cancer period.

FIFTH DISTRICT

FRED W. HITCHINGS, M. D., Collaborator.

W. C. Bunce of Oberlin, read a paper on "The Emanuel and Allied Movements," before the Lorain County Medical Society.

The speaker opened his remarks with the scriptural statement that "No man can serve two masters, for either he will hate the one and love the other, or else he will hold to the one and despise the other." He deplored the fact that those of our churches which had maintained their purity of worship should now be straying from their sacred calling, and attempting to touch upon other pursuits especially while so much remains to be done in their own line of duty.

He showed the downward tendencies of such movements in the past from remote ages of the miracle working Egyptians to Dowieism and Eddyism; from prayers to formulas and then to charms, amulets and fetiches; the civilized employing prayers, the pagans making offerings and presents, the savage using weird and often revolting incantations, but all with the same un-

derlying motive of superstition, passing by known facts to seek the mythical and unknown.

Christian Science, he considered, as one of the most lamentable movements of the age; it obtunds the mind, deadens the intellect and makes its votaries veritable slaves, with a far-away look who answer your arguments not with reasonable replies, but simply a smile!

He analyzed many of the various claims of the cult and showed their lack of logic, their weakness and absurdities, crediting the results obtained as due to purely psychic influences. He likened it to theosophy, alleging the treatment to be purely suggestive; intimating that the subconscious mind so much talked about was formerly a more active force which has become more or less latent, like the rudimentary organs we possess, and its present cultivation may be a step backward, deleterious to the higher mental powers and pregnant with danger.

The Emanuel movement is fraught with similar perils; it is largely dependent on hypnotism, and should not be countenanced by the medical profession.

He contrasted the methods of the authors of the new movement with the rational suggestive treatment of the medical profession. He urged that clergymen were not prepared by temperament, training or education to treat the sick; discord would surely arise, schisms appear with resultant confusion and discredit of the church.

The speaker concluded with the statement that inasmuch as the arising of new schools, cults, etc., in times past had always resulted in a reaction with consequent benefit to true medical science, so in this case, by drawing attention to some of the delinquencies and short comings of the profession of today, this and other cults will eventually bring about an increased effort in study and practice to the gain of medical progress in general.

SIXTH DISTRICT

E. P. MORROW, M. D., Collaborator.

At the regular meeting of the Stark County Medical Society which was held Tuesday, March 16, at Canton, the following program was given: "The Anatomy and Physiology of the Cardio-Vascular System," J. B. Dougherty, New Berlin; "Valvular Diseases of the Heart," Geo. M. Campbell, Navarre; "Myocardial Diseases and Associated Vascular Changes," Perry F. King, Alliance; "Rheumatic Endocarditis in Children," presentation of cases, Charles H. Ross, Alliance.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

"Observations Predicated Upon a Little More Than Two Years' Experience in Three Different Lines of Surgical Effort."

(Delivered before the Jefferson County Medical Society, at Steubenville, Ohio, March 9, by W. D. Hamilton, M. D., Columbus, Ohio.)

The speaker said in part:

This article is based on a tabulated list of forty-two patients operated upon since January, 1907, by Charles S. Hamilton and myself, all but two of them in the Mt. Carmel Hospital. Twelve of them were cases of goiter, of which eleven recovered and one died. The fatal case was one of very advanced and chronic Graves' disease, in which ligation of the thyroid arteries and smaller thyroidectomies on different occasions might have resulted more happily. Many of these patients with Graves' disease get into such enfeebled physical condition that their ultimate surgical examination may find them to be very poor surgical risks.

Ten of the cases in the second portion of the list were cases of tubercular peritonitis, all subjected to operation, of which nine recovered and one died of phthisis one month after leaving the hospital.

Last, but not least, and constituting the remainder and third portion of the series herein given, are twenty cases in which prostatectomy was done. These twenty patients have been operated upon within the past twenty-five months. Eliminating the two fatal cases of cancer of the prostate from this series, one death only is to be found in the eighteen cases subjected to prostatectomy. This death was that of a man of eighty-six years, whose postmortem showed "terminal pneumonia" as cause of death. (J. J. Coons, pathologist.)

With perhaps three exceptions, the remaining thirty-nine specimens obtained in the entire series of forty-two cases reported were examined by our pathologist. This, of course, gives this contribution a fair degree of scientific accuracy.

Mr. Moynihan has recently written an impressive address on the "Inaugural Symptoms of Disease." The medical profession, he states, is more interested in the pathology of tissues examined at a stage when cure can be effected by operation than in the pathological study of tissues which were the immediate precursors of death and which were derived from autopsies. His contention that a large number of cases of cancer of the stomach, for instance, die annually in England, where too little attention has been given by the medical attendant to surgical diagnosis in the early stage, would apply to the facts in this country as well. When individuals at or after middle life suddenly and for unaccountable reasons begin to lose flesh and strength, with anemia, and especially if they have also sour stomach, an early surgical consultation should be held. To wait until a gastric tumor is present may mean the loss of an opportunity for surgical cure. The

text given by Mr. Moynihan is quite as applicable to many other surgical ailments. The pathology of goiter has been chiefly derived from the microscopic examination of operative specimens.

When a growth is manifest in any part of the thyroid, an early diagnosis is desirable. When deformity or pressure symptoms or excessive vascularity appear, or when rapid growth is taking place, surgical intervention is advisable. Almost any goiter may be operable at some stage if rapid growth or pressure symptoms be apparent. In Graves' disease the gland often shows marked vascular changes. In the operative treatment of this disease, degenerative portions of the thyroid gland may be excised, or their removal may follow repeated ligations of the thyroid arteries. In parenchymatous goiter, the enlargement of the thyroid is uniform throughout its substance. Some diffuse and a few colloid goiters show marked evidences of improvement or even cure from the use of iodine. Injections into the thyroid are dangerous, no matter what the condition for which they are given. In adenomatous disease there is a greater amount of glandular tissue than normal. There may be one or several such growths in the substance of the gland. In cystic goiter there are one or more cavities in the gland, containing fluid, which may be colloid or otherwise in character, in which adenomatous masses are often to be found. Occasionally the degenerative changes of malignancy are seen in the thyroid. Graves' disease or exophthalmic goiter is accompanied with certain constitutional symptoms. Such cases are not always frankly typical in their symptomatology. It is important that the diagnostic mind be alert in suspecting exophthalmic goiter in tachycardia or in those having unaccountably rapid or feeble circulation, with what one might be inclined to call neurasthenic symptoms, where, however, closer inspection may disclose some deviations from the normal in the thyroid. Some of these patients with exophthalmic goiter improve apparently for a time under medication. Again, they may get better without therapeutic attention. Other patients, with varying progress, may ultimately die from the disease. In the treatment of goiter drugs should be stopped when irritant effects ensue from their use or when the disease is evidently unabated or progressive. While pursuing these measures too long, a case may become inoperable. So surgical measures should be considered early, and often as the only reliable expedient in the treatment of many goiters.

Most medical men are probably pessimistic about the outcome, whatever be done, in the treatment of tubercular peritonitis. If it be associated with complications, such as phthisis pulmonalis, or very extensive intra-abdominal involvement, such a gloomy outlook is often well founded. When the disease is clearly circumscribed, beautiful results are often obtained by surgical interference in tubercular disease in the abdomen. The ordinary beginnings of intra-abdominal tubercular invasion are usually found in the intestine, the appendix or the Fallopian tube. When the mesenteric glands are invaded, it is probably a sequel of an ulcerative process in the intestine corresponding to them. Many of the subjects of tubercular peritonitis have or have

had pulmonary tuberculosis. Women are more liable to the disease than men.

No doubt the physiological monthly engorgement and depletion to which the internal generative organs of women are subject during menstruation may invite lodgement of tubercle bacilli and of activity as well on the part of those organisms, so that the energy of those pathological processes may be expended on a Fallopian tube or ovary or upon both, and upon the uterus as well. When the disease is circumscribed, the removal by operation of the tissues thus primarily affected—often the Fallopian tubes in women—may prolong life or even bring about a cure. Patients with coincident phthisis are bad operative risks.

Relatively non-febrile pyosalpinx, with induration to rectal and vaginal palpation at some point in the region of either broad ligament or about the uterus, may often be found in such cases. At this stage there is not much fluid in the peritoneal cavity. Good results are more liable to be obtained when the disease is circumscribed and neither too acute nor too chronic. Acute tubercular peritonitis may mean acute miliary tuberculosis. When too chronic, it may, like a malignant neoplasm, have infiltrated and vitiated tissues about it so extensively as to make cure by surgery extremely unpromising, even though some of these patients recover, after simple operative drainage of the abdomen.

Enlargement of the prostate causing urinary obstruction is a topic of growing surgical interest. In August, 1906, the writer published schematically seventeen prostatectomies with four deaths. A complete list of our further experience in this branch of surgical work is incorporated in this article. Cancer of the prostate is rather common, probably occurring in 20% of cases of prostatic enlargement.

The writer has realized in many ways the advantages of the perineal over the suprapubic operation. The peril to life is probably less, everything considered, from it than from the high operation. There are no doubt very large prostates which may be more readily extricable by the suprapubic method. Prostatectomy well done is a most beneficial procedure in the many cases calling for its employment.

The speaker then submitted tabulated lists giving the details of the cases referred to. A résumé of these are as follows:

(1) Thyroidectomies, 12 cases. Of these 11 recovered and 1 died.

Pathological diagnosis—

Simple adenoma	4
Cystic adeno-fibromyoma	1
Adeno-carcinoma	3
Gland hyperplasia (Graves' disease) ..	2
Simple cyst of thyroid.....	1
Accessory thyroid	1

(The one death occurred in one of the cases of Graves' disease.)

(2) Tubercular Disease, 10 cases.

Pathological diagnosis—

Tubular salpingitis and oöphoritis (with tubercular peritonitis in 2)...	9
Tubercular appendicitis	1

Operation.—

Simple salpingectomies	2
Salpingo-oöphorectomies	5
Appendectomies	2
Salpingo-hysterectomies	2

Recovered from operation, 10.

Results.—Great improvement in health in 6 cases.

Deaths within the year from pulmonary tuberculosis, 2.

After results not given, 2.

(3) Prostatectomies, 20 cases.

Pathological diagnosis—

Adeno-carcinoma	2
Adeno-fibroma	14
Sarcoma	1

Not examined by pathologist (clinical diagnosis)—

Fibroma	3
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Results.—Recoveries 17; deaths 3. (Of the deaths two occurred in the two cases of carcinoma, and the third died of post-operative pneumonia.)

EIGHTH DISTRICT

CHAS. H. HIGGINS, M. D., Collaborator.

The regular meeting of the Muskingum County Medical Society was held Wednesday evening, March 10. The program was as follows: "The Cause of Some Undeveloped and Backward School Children," W. A. Melick; "Objections to New Law Bureau Vital Statistics," in communication from L. E. Williams, St. Marys. H. T. Sutton, by special request, report of case forty-three pound cyst, with photographs.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

The Columbus Academy of Medicine at its regular meeting March 1, rendered the following program: "Angina Pectoris," Frank Winders. The paper was discussed by Drs. J. D. Dunham, Rogers, Gilliam, Harris, Deuschle, and closed by Dr. Winders.

The following cases were reported:

A. S. Barnes reported the case of a female, aged forty-nine, of neurotic temperament, who developed (the day after her father's death) irregularly sized purpuric (or erythematous) blotches occupying the field surrounding the eyes. The lesions extended downward to the malar prominences, yet were separated by the bridge of the nose. The blotches were about two and one-quarter inches in diameter; non-elevated; they did not disappear on pressure, and caused very little itching. The conjunctiva was not involved. There was no edema. Constitu-

tional symptoms were absent. The lesions appeared on no other part of the body. They developed suddenly, and were of a purplish red efflorescence.

Dr. Barnes was of the opinion that the traumatism of the handkerchief (used when crying) was responsible for the localized pathology, in that it acted upon an already present and pre-existing angioneurosis. He suggested the term "necrotic purpura, rather than erythema, as a term most fitting in describing the local lesions.

W. K. Rogers reported and presented three cases of albuminuric retinitis, on two of which cerebro-spinal decompression had been performed by lumbar puncture eleven days before. The cases had all been referred by C. T. Okey, under whose care they remained for general treatment. Only one of the cases was present for examination and was inspected by a number of the members attending the meeting. This was a man, age twenty-eight, giving a history of headaches and gastro-intestinal disturbances, with some asthenopia, for a few weeks past. An examination by Dr. Okey showed a large amount of albumin in the urine with granular and hyaline casts, the daily quantity being somewhat diminished. There had been no oedema of the face nor extremities. He was sent by Dr. Okey for an examination of the eyes rather more on account of his asthenopia than any particular failure of vision. The ophthalmoscope showed a typical albuminuric infiltration of each retina with a moderate degree of choked disc, amounting to about 2.5 D. in excess of a low grade compound hyperopic astigmatism. The retinal vessels were extremely tortuous and there were numerous superficial hemorrhages in addition to the characteristic exudate in and about the macular region.

After consulting with Dr. Okey, decompression by lumbar puncture was advised as a palliative measure in order to limit the degenerative changes which uniformly take place during the long period of time required for the elimination of the excess of sub-arachnoidean fluid upon which the retinal changes depend. Vision was 6/6 at the time the case was first seen, reduced to 6/9 on the following day and 6/15 by the day after, when decompression was performed by Dr. Crotti at Grant Hospital under cocaine infiltration, evacuating 82 c. c. of perfectly clear cerebro-spinal fluid. This was attended by sharp headache and considerable faintness, but no vomiting. Ophthalmoscopic examination within twenty minutes after the operation showed the appearance of a distinct outline of each disc at the temporal border, which before the operation had been invisible. The patient was kept in bed on restricted diet for twenty-four hours at the end of which time his visual acuteness had increased to 6/9, and at the end of the week had returned to 6/6, at which point it has remained. The retinal hemorrhages have entirely disappeared, and the temporal border of the right disc is still visible, but in the left has again become slightly obscured. No material alteration has, of course, as yet taken place in the retinal infiltration.

The second case was that of a woman twenty-eight years of age who had been under my case several years previously for hereditary specific interstitial, keratitis, from which she had made a satisfactory recovery. During the past few months she had suffered from severe headaches, for which she had been under treatment by Dr. Okey who found upon examination of the urine, a large amount of albumin with degenerative casts; the daily quantity was somewhat diminished. She had occasional puffiness under the eyelids, and slight oedema of the lower extremities, and was referred to me a few weeks before on account of a recrudescence of her old corneal trouble. This produced sufficient clouding to materially interfere with the ophthalmoscopic examination, and it was not until about the time the first case came under observation that a definite, although still obscure view of the fundus could be had. This showed a high degree of choked disc with more extensive retinal infiltration than in the first case, the question of hemorrhage being undetermined. Her vision was 5/100 in the right eye, which fell in six weeks to 1/100 with her refraction corrected, in spite of the improved corneal condition. In the left eye it was reduced to counting fingers at two feet. Decompression by lumbar puncture was advised as in the former case, and performed by Dr. Crotti, at the same time, with immediate similar symptoms. The corneal clouding did not admit of an ophthalmoscopic examination until she was able to report at my office a week later, at which time her vision had increased to 6/30 in the right eye, and 6/35 in the left. No very distinct change could be made out by the ophthalmoscope, and no reliable data as to fields, on account of the condition of the corneae.

The third case was that of a man, sixty years of age, of alcoholic habits, a dilated and leaky heart and extensive degeneration of the blood vessels, giving a history of a former attack of partial hemiplegia. A large amount of albumin and numerous degenerative casts were present in the urine and in addition to considerable headache he complained of very marked impairment of vision. Upon ophthalmoscopic examination this was found to depend not only upon the characteristic albuminuric infiltration of the retinae with choking of both discs and numerous deep and superficial hemorrhages, but also extensive old degenerative changes in the vitreous and some opacity of the lenses. In view of his critical vascular condition and the sharp depression and vaso motor alterations which the little operation entails, it was not advised in this case, although undoubtedly in the light of the experience of the other two, had it been successfully performed, it would have given him material relief. Statistics in these cases, however, are not sufficiently abundant to enable one to assume the responsibility for the outcome where so many complications exist as probable contraindications.

Aside from this condition, the principle danger connected with the operation is in cases of central brain tumors where evacuation of the sub-arachnoidean fluid may allow the brain mass to settle in such a way as to make pressure through the tumor upon the under surface of the

medulla. In a few such cases, sudden death has occurred, from respiratory paralysis.

Our attention has been called to the value of this procedure by a most meritorious communication presented at the last meeting of the American Medical Association by Drs. Bordley and Cushing, of Baltimore, who have conducted a series of 200 experiments pathologically and otherwise, to establish the dependency of the condition of choked disc upon increase of sub-arachnoidean fluid, rather than the presence of other mechanical sources of pressure, or toxins, as heretofore advocated by many able observers.

It is of course beyond my purpose to discuss the value of decompression procedures in general, but in the light of present day developments along the line of pathological research, it is most gratifying to encounter one which carries with it a practical procedure for at least the relief of symptoms, if not of a curative nature. It is not to be supposed that this procedure would exercise any very material therapeutic influence upon the progress of the underlying disease, but it does exercise a most material influence upon the local mechanical results, to which are due the very serious and usually permanent alterations of vision; and it makes much more important than has heretofore been the case, the early ophthalmoscopic examination of all cases of nephritis as well as those in which a cerebral tumor may be suspected. For, as shown by this series of only three cases, one of them presented advanced changes in the discs and retinae, before any material alteration of vision had occurred, to attract attention, and it is a well known fact that visual alterations are frequently not at all in proportion to the pathological picture presented.

Dr. Dunham's report upon the specimens of cerebro-spinal fluid is of considerable interest showing a distinct contradiction to the generally accepted dictum of text books on this subject. The specific gravity was 1.009; one specimen presented a trace of albumin which was not present in the other, and is said by the authorities we have been taught to respect, never to be present in this fluid; and neither specimen showed any reduction by Fehling's solution, whereas these authorities agree that it should always be so reduced.

John Dudley Dunham reported and presented the following cases:

The three cases of so-called idiopathic cardio spasm illustrate, first, the difficulties in diagnosis, and second, the requirements in a proper treatment.

Case 1.—Mrs. G., aged forty-eight years, married, of Jackson, Ohio, was referred to me by her physician February 14, 1909. Patient says she has not been well since her last child was born twenty-six years ago; complained of being nervous with occasional tremor. She has an irregular appetite and when nervous says she can eat very little; for the last year has complained of regurgitation of food and occasional vomiting.

Father died of old age; mother living, but very nervous. Two brothers living and well.

Her menstruation has been irregular for four or five months; complains some of hot flashes. Patient has never had any very severe illnesses or infections. As far as she knows her last labor from which she dates the onset of her nervous breakdown, was normal in every respect. Trouble with digestion has been present for several years, and has been very annoying for the last six months. Her habits of eating and mastication seem to be good, and she is not intemperate in her use of tea and coffee, and she uses no alcohol. Her physician has treated her for dyspepsia for the last year. The treatment seems to have benefited her temporarily only to be followed by more continuous trouble. The patient complains of some weakness, her pulse is 100, temperature normal, respiration normal. Her weight one year ago was ninety-eight pounds, at present ninety-two pounds. Within ten or fifteen minutes after eating she usually regurgitates a portion of her food. This is not accompanied by nausea, but is preceded by a distress beneath the sternum. About one hour or an hour and a half after her meals she vomits. She has no abnormal thirst, no night sweats or vertigo, she sleeps irregularly and has frequent attacks of headache.

Upon examination patient is seen to have the build of the enteroptosis type. Her color is good, but muscles not well developed. There is no icterus or edema. Examination of the chest reveals normal conditions of the lungs and heart and the abdomen shows a right floating kidney and a gastropotosis. Succussion sound can be elicited three inches below the umbilicus. No other abnormality was discoverable in the abdomen. Patient has no hemorrhoids. Contents removed one hour after a test meal showed a hydrochloric acidity of 40 and a total acidity of 60. Upon withdrawal of the tube a portion of bread and tea was obtained at a distance of fifteen inches from the incisor teeth. This material contained no hydrochloric acid or ferments. A second test was made in the following manner: A cup of black coffee was given and fifteen minutes after its ingestion, the coffee was removed by the tube fifteen inches from the incisor teeth. When the tube was introduced into the stomach no coffee could be secured. The deglutition sounds were delayed for forty seconds.

The total amount of urine for twenty-four hours was 700 cubic centimeters. Contained no albumin, glucose or casts. The blood showed a mild secondary anemia. The diagnosis seemed to be an obstruction at the cardia, the nature of which was not certain. In order to settle the cause of the obstruction a roentgenogram was taken; this showed no shadow in the oesophagus, but revealed the bismuth in the large cavity of the stomach. The diagnosis is therefore intermittent cardio spasm.

Treatment: Rest in bed with forced feeding and massage. For four days previous to leaving the hospital she had neither vomited nor regurgitated food.

This patient thought she had cancer.

Case 2.—Miss A., aged twenty-two, single, born in Germany, resident Columbus, consulted me August 25, 1908, suffering from difficulties in swallowing, great weakness and nervousness. Her father is living and well, mother living and

well, two sisters in good health, two sisters died in infancy. Menstruation suppressed for three months. Patient has had no severe illnesses, except typhoid fever with which she was attacked the last week in April of 1908, and from which she recovered on June 21. Her convalescence from typhoid fever was spent in active work about the house before her strength was fully recovered. Before the typhoid fever her weight was 125 pounds and at present eighty-one pounds. Since the typhoid fever she has eaten voraciously of all sorts of food without thorough mastication. On the day after she left her bed from the typhoid fever she experienced a difficulty in swallowing, which has become more severe progressively. At present she regurgitates almost all she eats. As a result of the irregularity of food she has become very weak and is unable to walk any distance. She has some expectoration which proved negative on examination. She has pain beneath the sternum when she eats, which she says continues until she has spit up the food, or until she has heard it enter her stomach. Examination of the chest was negative. The abdomen is scaphoid and the abdominal aorta is not only palpable, but also visible. Tenderness is found in the epigastrium, but at no other point in the abdomen. The contents of the oesophagus could be readily removed by means of the stomach tube, and showed the characteristic differences from that which is obtained in the stomach. The urine was found normal and the blood showed a secondary anemia. A distinct resistance was felt with the stomach tube when an effort was made to pass it beyond the cardia, and it was only with great difficulty that such passage was affected. Patient sent to the Grant Hospital for treatment, which consisted of rest in bed, small amounts of food by the mouth, rectal feeding. An effort was also made at repeated times to increase the size of the opening into the stomach by means of the Rosenheim dilator. At the third trial, with the exercise of the slightest force, the smallest tip was made to pass the obstruction. She had considerable pain following this instrumentation, and the next day developed a rise of temperature and gradually a peritonitis from which she succumbed on the tenth day. A roentgenogram failed to show any dilatation of the oesophagus. Unfortunately no post-mortem could be secured. The diagnosis is uncertain. It may have been a tubercular ulcerative process following a tubercular peritonitis which had been incorrectly diagnosed typhoid fever, or on the other hand, the peritonitis may have resulted from injury during the instrumentation.

Case 3.—Mr. S., aet. twenty-six years, single, of Mr. Vernon, Ohio, was referred to me by C. S. Hamilton for examination and medical treatment May 28, 1907. For two years patient had complained of stomach trouble beginning with occasional vomiting and food coming into the throat. Accompanying the trouble much worry and anxiety has been experienced. Is melancholy at times and has consulted nine physicians, but obtained no relief. No venereal history. At sixteen years had scarlet fever and then rheumatism. Three years ago weight was 155 pounds. At present 145 pounds. Father living and well.

Mother died of arteriosclerosis. Examination: Heart action normal. Dulness in right apex. No rales. Examination of the abdomen shows nothing abnormal. A test meal was given and revealed no hydrochloric acid. Total acidity was 21. No lactic acid present. A large dinner was given at 6 p. m. By lavage at 9:15 next morning 150 c. c. of food was obtained. No hydrochloric acid. Leucocytes 15,000 and 85% polymorphonuclears.

A diagnosis was made of chronic gastritis with atony.

The patient entered the hospital and after two days it was discovered that food was regurgitated from the oesophagus. Deglutition sounds retarded. Then a history was secured showing movements were necessary to cause food to enter the stomach.

Patient did not disclose this history because he had been laughed at on the ground that the trouble was of nervous origin. He experienced some difficulty in swallowing. An operation to dilate the cardia was performed by C. S. Hamilton and he left the hospital. His weight at this time was 135 pounds. One and one-half years later weight was 165 pounds. He had only one recurrence of the trouble, which was when eating hurriedly and without fluids.

The first two cases, without dilated oesophagus are for hygienic, medical and dietetic treatment, but the third case is for surgical treatment. (The X-ray pictures of each case presented by Dr. Dunham were made by C. F. Bowen.)

Roentgenologists have added greatly to our means of diagnosis in diseases of the oesophagus and stomach in obscure conditions. Every patient who has any interference with deglutition should be examined in this manner.

The interpretation of the roentgenogram is also important.

C. F. Bowen presented a skiagram of a small, round-headed, brass screw that had been successfully removed from the right bronchus of a baby eighteen months old. The screw had been in the bronchus less than a week, and had caused very little irritation.

This was the second case of a similar character with which the doctor had had to deal within a period of less than three weeks. The technique originated by Dr. Bowen was carried out in the removal of the screw, namely, the making of a low tracheotomy, and the direct grasping of the foreign body by means of a forcep, introduced through the tracheotomy opening, under the guidance of the fluoroscope.

In commenting upon this, and the case previously reported, W. K. Rogers spoke of the high mortality following all endo-laryngeal forms of instrumentation. He was greatly impressed with the simplicity and seeming safety with which Dr. Bowen's technique could be applied. He considered it a distinct advance in intra-thoracic surgery.

Meeting of the Columbus Academy of Medicine, March 15. "The Columbus Water Supply," by E. G. Horton. The paper was discussed by Drs. Probst, Hatton, Kinsman, Bleile, C. S. Means, Warner, Winders, Moore and Upham.

NEWS NOTES

At the fifteenth annual conference of Council on Medical Education, held April 5, at Chicago, the following program was given:

10 a. m.—Morning Session.

Address of the chairman, Arthur Dean Bevan, Chicago.

Report of the secretary, N. P. Colwell, Chicago.

Report of committee on medical curriculum:

"Anatomy, including Histology and Embryology," Charles R. Bardeen, professor of anatomy, University of Wisconsin, College of Medicine, Madison, Wis.

"Physiology and Physiologic Chemistry," Elias P. Lyon, professor of physiology, St. Louis University, School of Medicine, St. Louis.

"Pathology and Bacteriology," William T. Councilman, professor of pathology, Harvard Medical School, 240 Longwood Ave., Boston.

"Pharmacology, Toxicology and Therapeutics," Torald Sollmann, professor of pharmacology and materia medica, Pharmacologic Laboratory, Western Reserve University, Medical Department, Cleveland, Ohio.

"Medicine, including Pediatrics and Nervous and Mental Diseases," George Dock, professor of medicine, Tulane University of Louisiana, New Orleans.

"Surgery: General and Special," Charles H. Frazier, professor of clinical surgery, University of Pennsylvania, Department of Medicine, Philadelphia.

"Obstetrics and Gynecology," Joseph B. DeLee, professor of obstetrics, Northwestern University Medical School, Chicago.

"Diseases of the Eye, Ear, Nose and Throat," George E. de Schweinitz, professor of ophthalmology, University of Pennsylvania, Department of Medicine, Philadelphia.

"Dermatology and Venereal Diseases," William A. Pusey, professor of dermatology and clinical dermatology, College of Physicians and Surgeons, Chicago.

"Hygiene, Medical Jurisprudence and Medical Economics," F. F. Wesbrook, professor of pathology and bacteriology, University of Minnesota, College of Medicine, Minneapolis.

Afternoon session, 2 p. m.:

"Some Results of Higher Standards of Preliminary Education," Richard H. Whitehead, dean of the Department of Medicine of the University of Virginia, Charlottesville; discussion.

"The Character of the State Medical License Examination," Fleming Carrow, member of the

State Board of Registration in Medicine of Michigan, Detroit; discussion.

The North Side Medical Research Society met March 9, at Columbus. The following was the program: "Careless Diagnosis in General Practice," J. A. McClure; discussion, M. D. Fitch, J. A. Van Fossen, G. W. Rogers, J. S. Carlton.

John M. Withrow, of Cincinnati, was tendered a banquet by the Cincinnati Business Men's Club on the evening of March 27, as a token of the appreciation felt for the doctor in his efforts on behalf of education as president of the Cincinnati Board of Education, and so instrumental in the building of the two new high schools in Cincinnati.

DEATHS

THAD. A. REAMY, A. M., M. D., LL. D.

This well and widely known, much beloved father in medicine died in Cincinnati on the morning of March 11, 1909. He was born in Virginia, April 28, 1829. With his parents he emigrated to Ohio when but four years of age. He was graduated in medicine in 1854 practiced as a country practitioner for nine years and was then made professor of obstetrics in his alma mater, Starling Medical College, Columbus, Ohio. In 1871 he became professor of obstetrics in the Medical College of Ohio, Cincinnati, and was later made professor of clinical gynecology in the same institution. The year 1870, Dr. Reamy spent in post-graduate work in London, Paris and Dublin. He did much pioneer work in gynecology in Cincinnati, especially in abdominal survey. He established the first private hospital in Cincinnati, now known as the Bethesda hospital, Oak street and Reading road.

Dr. Reamy is survived by his wife who was Miss Sarah A. Chapplear, from Zanesville, whom he married in 1853. Dr. C. L. Bonifield, of Cincinnati, is a nephew, and Mrs. Wm. Gillespie, of Cincinnati, at whose house the doctor died, is a niece. There were also other nieces.

Dr. Reamy received his M. D. from Starling Medical College, his A. M. from the Ohio Wesleyan University, and his LL. D. from Cornell. He was surgeon to the 122 O. V. I., was at one time a member of the Ohio Legislature and was for many years a member of the board of trustees of the Cincinnati University. He was gynecologist to the Cincinnati and the Good Samaritan hospitals. Dr. Reamy was the first American

to teach obstetrics clinically which he did about thirty years ago in the amphitheatre of the medical college of Ohio before 300 students. This at that time created a great deal of excitement, approval in the medical profession and disapproval among the laity, and he was attacked very savagely by the lay press. Dr. Reamy was member and ex-president of the Obstetrical Society of Cincinnati, the Academy of Medicine, The Ohio State Medical Society, The American Gynecological Society and also member of the American Medical Association. Dr. Reamy was a member of the Loyal Legion, a Mason and a Methodist. In his younger years a writer of distinction for medical journals and medical books.

The Obstetrical Society of Cincinnati, of which Dr. Reamy was not only a charter member, an ex-president and a lifelong friend, but was the one who conceived the idea of its existence, met in its regular meeting on the day of his death. The society was called to order, a committee was appointed by the president to draw up resolutions of respect and the society adjourned in respect to his memory. The president appointed the following committee: W. D. Porter, E. W. Mitchell, J. M. Withrow. The Academy of Medicine appointed the following honorary pallbearers: Wm. H. Taylor, B. P. Good, C. D. Palmer, A. G. Drury. The Loyal Legion appointed the following honorary pallbearers: Lieut. Col. David H. Moore, Surgeon Phineas S. Conner, Surgeon Byron Stanton, Brevet Captain (Dr.) Stephen C. Ayres, Surgeon Jacob Trush, Lieutenant (Dr.) Asa B. Isham, Major (Dr.) Wm. R. Thrall, Dr. Edward S. McKee, Companion Wm. V. Ebersole, Lieutenant William C. Johnson. The pallbearers were Drs. E. W. Mitchell, W. D. Porter, J. M. Withrow, Wm. Gillespie, C. L. Bonfield and Wm. Keller, Jr. The funeral was held at the residence of Dr. Wm. Gillespie, May and June streets, Walnut Hills, Cincinnati, at 4 p. m. on Saturday, March 13th inst. The interment was at Zanesville, Ohio, at 10 a. m., Monday, March 15, 1909. The funeral services were conducted by Bishop David H. Moore of the Methodist Episcopal Church, a life long friend.

"In love he practiced and in patience taught
The sacred art that battles with disease;
Nor stained with one disloyal act or thought
The holy symbol of Hippocrates."

"Ueber alle Gipseln ist Ruhe."—Goethe.

P. S. CONNER, M. D., LL. D., CINCINNATI.

Cincinnati's famous surgeon is no more. He died suddenly in Cincinnati at the home of his daughter, Mrs. John S. Meserve, on March 26, 1909. The day before he had gone to Middletown, Ohio, to attend the meeting of the Butler County Medical Society, and had delivered an address before the society. Four days before his death he had delivered a very touching address before the Cincinnati Academy of Medicine at the Reamy Memorial on "Dr. Reamy as a Colleague."

Phineas Sanborn Conner was born in Chester, Pa., August 23, 1859. His parents moved to Cincinnati when he was five years old. He received his literary degree from Dartmouth in 1859, and his LL. D. from the same institution twenty-five years later. He studied medicine at the Medical College of Ohio and the Jefferson Medical College, at which latter institution he graduated in 1861. He served as surgeon through the civil war and "for faithful and meritorious services" was brevetted Captain and Major. He filled, seriatim, the chairs of chemistry, anatomy, and surgery, in the Medical College of Ohio. He was also professor of Surgery in Dartmouth, giving his lectures there in the summer during the same years he was teaching in Cincinnati. He was member and president of the American Surgical Association, the American Academy of Medicine, Ohio State Medical Society, Cincinnati Academy of Medicine. He was also member of the American Medical Association and the International Medical Congress. He was on the staff of the Good Samaritan Hospital for thirty-five years and the Cincinnati Hospital for twenty-six years. Dr. Conner was a member of the Society of Colonial Wars, the Sons of the Revolution and Loyal Legion, all of which societies sent honorary pallbearers.

President McKinley, at the close of the Spanish-American War, appointed Dr. Conner as one of a commission to investigate the food supply of the American soldiers. Dr. Conner's wife died ten years ago, and his son, Phineas S. Conner, Jr., M. D., died a few years ago. He leaves two daughters. He lies in Spring Grove, lamented by thousands of patients, friends and former students.

PROGRAM FOR POST-GRADUATE STUDY.

FOURTH MONTH.

DISLOCATIONS AND DISEASES OF THE JOINTS.

FIRST WEEKLY MEETING.

ANATOMY.

Synarthrosis, amphiarthrosis, diarthrosis; subdivisions of each.

Structure of true joints; articular surfaces, articular cartilages, capsular and accessory ligaments, synovial membrane, synovial fluid, synovial fringes, intra-articular ligaments. Blood vessels, lymphatics and nerves of joints. Fixation of joints by ligaments, muscles, cohesion and atmospheric pressure.

DISEASES OF THE JOINTS.

A. PATHOLOGICAL CLASSIFICATION.

1. Acute traumatic (non-suppurative). 2. Suppurative. 3. Tuberculous. 4. Chronic (non-tuberculous) arthritis: (a) serous, (b) ulcerative, (c) ankylosing, (d) formative, (e) fungous. Generic Pathology.—1. Synovitis, may be (a) inflammatory (infectious, tuberculous, syphilitic, gonorrheal, typhoid, etc.), or (b) trophic (trophic, metabolic, senile, arteriosclerotic, toxic, etc.). 2. Osteoarthritis may be (a) inflammatory (infectious, tuberculous, etc.), or (b) trophic (trophic, metabolic, toxic, etc.).

B. CLINICAL CLASSIFICATION.

1. Acute Synovitis.—Symptoms, pain, heat, redness, swelling, impaired function, malposition, muscular atrophy. Clinical course.
2. Chronic Synovitis.—(a) Chronic serous, (b) from muscular atrophy after acute, (c) foreign bodies in joint, (d) with infections, gonorrhea, etc., (e) intermittent form.
3. Infective Arthritis.—Follows osteomyelitis, serous synovitis, fibrous synovitis, or is primarily suppurative. Etiologic infections, gonorrhea, influenza, pneumonia, typhoid, rheumatism, scarlatina, etc.; varying pathology of each.
4. Arthritis Deformans.—Varieties, symptoms.
5. Tuberculosis of Joints.
6. Charcot's Joint Disease.—Arthropathy.
7. Spondylitis Deformans.
8. Wounds and Sprains.
9. Hysterical Joints.
10. Loose Bodies in Joints.

SECOND WEEKLY MEETING.

DISEASES OF THE HIP.

COXITIS.—Etiology: Trauma, osteomyelitis, tuberculosis, acute infections, syphilis.

COXITIS TUBERCULOSA.—Symptoms: Onset, lameness, night cries, etc.; reflex spasm, atrophy,

swelling, shortening, malposition, pain, temperature. Treatment: General, diet, fresh air, etc.; local (1) extension, (2) fixation, (3) correction of deformities, details of treatment.

COXA VARA.—Etiology: Rickets, arthritis deformans, osteomyelitis, tuberculosis, traumatism. Symptoms: Unilateral or bilateral. Limp, pain, shortening, position of trochanter, rotation. Use of X-ray.

DISEASES OF THE KNEE.

ACUTE SYNOVITIS.—Serous, seropurulent or purulent. Symptoms, treatment of each.

CHRONIC SYNOVITIS.—Treatment.

INTERMITTENT HYDROPS.

TUBERCULOSIS OF KNEE JOINT.—Symptoms: Reflex spasm, atrophy, swelling, shortening, malposition, pain, lameness. Treatment: Extension, fixation, injections, Bier's congestion-hyperemia. Operative treatment.

DISEASES OF ANKLE AND FOOT.

ACUTE SYNOVITIS.—Simple and purulent.

CHRONIC ARTHRITIS.—Rheumatism, arthritis, deformans, syphilis, tuberculosis.

DISEASES OF THE UPPER EXTREMITY.

SHOULDER.

SEROUS ARTHRITIS, Fibrinous Arthritis.

PURULENT ARTHRITIS.—Etiology: Injuries, osteomyelitis, infectious diseases. Treatment: Aspiration and injection, arthrotomy, excision, amputation.

TUBERCULOUS ARTHRITIS.

ARTHRITIS DEFORMANS.

NEUROPATHIC ARTHRITIS, in syringomyelia.

LOOSE SHOULDER JOINT.—Due to traumatism, operation, inflammatory effusion, deforming or neuropathic arthritis, injury to nerves, separation of epiphysis.

ELBOW.

ARTHRITIS.—Acute, serous, purulent and syphilitic.

TUBERCULOSIS.—Diagnosis, treatment.

WRIST AND HAND.

RHEUMATISM.

ARTHRITIS DEFORMANS.

SYPHILIS.

TUBERCULOSIS.

NEUROPATHIC ARTHRITIS.

THIRD WEEKLY MEETING.

DISLOCATIONS.

CLASSIFICATION.—Compound, complicated, multiple, complete and incomplete, traumatic, pathologic, congenital, ancient or unreduced, recurrent, spontaneous.

ETIOLOGY.—Predisposing causes, anatomic peculiarities, age, sex, occupation; exciting causes, indirect or direct violence, muscular action.

PATHOLOGY.—Injury to ligaments and capsule,

injury to bone and cartilage, to blood vessels, to nerves.

TREATMENT.—Anesthetic, reduction; obstacles to reduction, portions of capsule, muscle, tendon, bone.

SPECIAL DISLOCATIONS.

LOWER JAW.—Varieties, treatment.

CLAVICLE.—1. Sternal end: (a) forward, (b) upward, (c) backward. 2. Acromial end: (a) supra-acromial, (b) subacromial, (c) subcoracoid. Diagnosis and prognosis in each variety.

SHOULDER.—Frequency, age, sex, character of injury. Pathologic anatomy. 1. Anterior or forward: (a) subcoracoid, (b) subclavicular. 2. Downward; subglenoid, with sub-variety, the erect. 3. Posterior or backward: (a) subacromial, (b) subspinous. 4. Upward; supraglenoid. Diagnosis. (a) Subcoracoid, inspection, palpation, abduction; Dugas' test. (b) Subclavicular. (c) Subglenoid, inspection, palpation, abduction, measurements. (d) Subspinous and subacromial. Diagnosis of complications. (a) Fracture of humerus. (b) Injury of vessels and nerves.

ELBOW.—1. Of both bones of forearm: (a) Backward (backward and outward or backward and inward). Pathology, lateral ligaments, flexors and brachialis anticus, coronoid process; fractures and injuries to vessels and nerves. Diagnosis and treatment. (b) Lateral (incomplete inward and outward, or complete outward). (c) Forward (with or without fracture of olecranon). (d) Divergent (antero-posterior and transverse).

2. Of ulna alone (backward and upward).

3. Of radius alone (forward, backward and outward).

4. Unreduced dislocations of elbow. Due to interposed capsule.

5. Unreduced dislocations of elbow. Due to interposed capsule, muscle or bone. Treatment, arthrotomy.

WRIST.—1. Lower Radio-ulnar Joint.

2. Radio-carpal Joint. (a) Dorsal, backward dislocation. (b) Forward dislocation.

3. Carpal Bones. (a) Mediocarpal joint. (b) Isolated displacements.

4. Carpometacarpal Joints.

PHALANGES.—1. Metacarpophalangeal Joints. (a) Thumb. Pathology and treatment. (b) Fingers.

2. Interphalangeal Joints of Fingers.

FOURTH WEEKLY MEETING.

DISLOCATIONS OF THE RIBS.

RIBS.—1. Costo-vertebral, pathology, complications, diagnosis.

2. Costo-sternal, first seven ribs, diagnosis, treatment.

3. Costo-costal, eighth, ninth and tenth, causes, treatment.

DISLOCATIONS OF THE HIP AND KNEE.

HIP.—1. Backward.—(a) Dorsal, iliac or ischiatic: direction of violence, injury to capsule, to ligamentum teres, rim of acetabulum, sciatic nerve, gluteal vessels, quadratus femoris, pyri-

formis and obturator. Diagnosis, adduction and flexion, inward rotation, shortening, trochanter. Treatment. Smith's manipulation (Bigelow). Stimson's method. (b) Inverted dorsal.

2. Downward and Inward.—(a) Obturator: Pathology, diagnosis treatment. (b) Perineal: Differs from obturator, diagnosis.

3. Upward and Forward.—Suprapubic: Iliopectineal or pubic forms, central; diagnosis, method of reduction.

4. Upward (Supracotyloid or subspinous).

5. Downward (Infracotyloid).

KNEE.—1. Forward. 2. Backward. 3. Lateral (inward or outward). 4. Dislocation by rotation. Diagnosis, complications, treatment.

PATELLA.—1. Outward. 2. Inward. 3. Vertical.

DISLOCATIONS OF ANKLE AND FOOT.

ANKLE.—1. Sagittal.—(a) Backward: Causes, pathology. (b) Forward: Diagnosis, pathology, treatment.

2. Lateral.—(a) Outward: Pathology, diagnosis, treatment. (b) Inward: Pathology, diagnosis.

TARSAL BONES.—Subastragaloid.—(a) Inward, (b) outward, (c) backward, (d) forward: Relations of astragalus, os calcis and scaphoid, and diagnosis in each form.

METATARSALS AND PHALANGES.

MONTHLY MEETING.

The Diagnosis and Differentiation of Dislocations of the Hip Joint.

The Treatment of Tuberculosis of the Joints.

The Diagnosis and Treatment of Complicated Dislocations.

REFERENCE BOOKS FOR THE FOURTH MONTH.

Keen's Surgery. Vol. ii.

Bryant and Buck: Practice of Surgery. Vol. iv.

von Bergmann-Bull: System of Surgery. Vol. iii.

Park's Surgery.

Fowler's Surgery.

International Text-book of Surgery. Vol. i.

Wyeth's Surgery.

Stimson: Fractures and Dislocations.

Cancer of the rectum is sometimes seen as early as the twenty-fourth year.

Malnutrition is sometimes the only appreciable evidence of a tuberculosis in children.—Ex.

Morton's disease is a painful condition of the foot, due to jamming of a nerve between the heads of the fourth and fifth metatarsal bones. It is usually associated with flat foot.

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ORIGINAL ARTICLES

FACTORS OF SHOCK AND SEPSIS IN TECHNIQUE.

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[Read before the Ohio State Medical Association.]

There is, I believe, a definite relation between technique and all post-operative complications, especially shock and sepsis. The use of the term technique should, however, be broader than that usually given it. It should comprise every detail from the examination until the patient is safely convalescent. In other words, a surgeon's technique should mean his ability to conduct a case through a surgical condition and not into a surgical crisis. If this be the true definition our technique must include:

First. Careful and thorough study of the patient as well as the surgical pathology he presents.

Second. Thorough and painstaking preparation of the patient, in order to bring his elimination, his assimilation, his secretions and his excretions to the nearest normal condition possible.

Third. There are several sources of complications (and particularly of infection), to be constantly kept in mind, viz.: *First*, the surgeon himself. *Second*, the surgeon's assistants and nurses. *Third*, the patient. *Fourth*, but not least, the patient's relatives and friends. *Fifth*, the attending physicians.

The first of these needs no argument. The possibilities of infection from an existing cardiac, renal pulmonary or nervous disease are so self-evident that the fact that any one may be present in a surgical patient demands that we try to assure ourselves of their presence or absence before considering operative effort not only because

of the danger any of these may of itself contain, but because each and all may be active factors in either shock or sepsis. Explanation: A heart that is already working under compensatory hypertrophy will be less able than a normal heart to sustain the blood pressure and the consequence is a slight degree of trauma may overcome all the benefits of compensation and lead to collapse. A patient whose hemoglobin is below 70 or whose blood count shows diminished numbers of cells will be affected by loss of blood to a much greater degree than one whose index is eighty-five or ninety and blood count normal. At the same time such a case infection will more easily occur. If our examination reveals these conditions, preparation can be made so as to raise this index and to increase the volume and the quality of blood. On the other hand, if we *can not* do this, the knowledge of the *depraved blood* should cause us to be extremely cautious about unnecessary hemorrhage and all *unnecessary* handling of tissues, because trauma of structures in which nutrition is low will very readily act as a cause of infection.

The sources from which infection may originate are varied. The surgeon is himself the first and most important, and he may be the cause either by commission or omission. He may be careless or defective in asepsis, in hemostasis, in thoroughness of work and he may tie his sutures so as to strangle the tissues (this latter I believe, to be the chief cause of stitch abscess). He may omit or neglect some one or more of the little details taking for granted that his assistant or nurse will attend to that. In this way more than one case of unexplained complication finds a ready and complete elucidation. That is, the surgeon busy with *important* matters leaves details to assistant or nurse. Assistant or nurse thinks because surgeon has said nothing about it, it is of no importance.

The work entrusted to assistants must never be without the surgeon's constant and vigilant supervision, if for no other reason than that the assistant may not get the idea that it is of no

very great importance. The assistant and the nurse are only human, and it is human to feel that what the surgeon does not consider of enough importance to give his *personal* attention, is only of secondary or minor importance.

The patient. There are many things in the patient himself which act as causes of infection. A large appendiceal abscess cannot be emptied without more or less infection of the wound or of the peritoneal cavity. Constitutional diseases such as syphilis, tuberculosis, rheumatism, etc., render a patient's resistance to infection lower, hence are factors to be kept in mind.

The patient's friends are often more to be dreaded than his disease. The effect of depressive psychic influence in a patient who has undergone a serious operation and is still suffering from shock, cannot be measured. This psychic phase of all surgical cases is one of the most important and yet the least considered.

We all know how readily fright will alter or check entirely the secretions, or arrest the excretions, and while our patient is still semi-conscious, while still suffering from shock, and in a condition to receive the most important suggestions the friends with anxious or perhaps tear-stained faces want to be and are admitted to the bedside to give the patient visions of death and judgment. Again, the women get out their furs and feathers, and regardless of the thousands of microbes nestling therein, want to wear them into the sick room and when there the bed very often serves as a clothes rack. These self-same wraps may have been worn for years without even the semblance of renovation.

Last, the family physician as the cause of infection. The appendicitis or infected gall-bladder, the hernia or the extra-uterine pregnancy, which has been nursed or treated under the euphonious though delusive diagnosis of indigestion, gastralgia, or ovarian neuralgia, etc., and treated by hot application or the ice bag until there is gangrene of appendix or an abscess, or until there are secondary abscesses in the liver, or until there is strangulation of bowel or until the patient is exsanguinated and septic, will be fraught with dangers of complications which early diagnosis and prompt judicious treatment would have avoided. Again, the doctor who visits his diphtheria, scarlatina or erysipelas patients and then comes to see his surgical case may be an unwitting source of infection. We must stop the looking for dollars and look for life.

The post-operative infections may be local or general. The local, parotiditis, cystitis, pyelitis, stitch-abscess and peritonitis. The general or systemic septicemia and pyemia.

A careful scrutiny of the mouth and proper cleansing of the same will be an almost absolutely certain preventive of parotiditis and *should* be a part of the preparation for every surgical operation.

A cystitis following operation *can be* but a reproach. This condition can only be the result of lack of care either to see that the catheter is sterile, that the vestibule is thoroughly cleansed, or that the hands which manipulate both catheter and the parts are thoroughly cleansed. Except it results because of *neglect to empty the bladder at proper intervals.*

An infection of the kidney, pyelitis, probably rarely, if ever, occurs except as an extension of a bladder trouble.

Stitch-abscess. A condition I believe to be absolutely preventable in all cases which can be safely closed without drainage and in the majority of cases where drainage is necessary. A stitch-abscess can occur in but one of three ways. First and most important, tying the sutures too tightly. Second, passing the sutures through unsterilized or infected tissues. Third, the use of infected suture material. The first of these is, I believe, the most common. Another cause which may be indirectly operative is the excessive labor placed upon the absorbents in the use of large amounts of buried suture material. If we remember that so soon as firm adhesion takes place the suture has finished its use and its longer presence in the wound becomes then a source of irritation, we can readily see how the through and through removable suture is a safeguard against stitch-abscess.

The advent of peritonitis following operations can mean only one of two things, namely, the introduction of infection during the operation or dressing, or the liberation of infection which was latent or localized, by our manipulations during operations. In either event it is possible to prevent, although in some cases the greatest care or best endeavor will fail. The one class in which this tendency to peritonitis is most pronounced is found in those cases where an appendicitis has had, as a feature, peritonitis of more or less general character. The acute symptoms have subsided at the end of ten days or two weeks or longer. An apparently aseptic operation is performed and in a few hours a diffuse peritonitis places the patient beyond help. Here the only explanation is to be found in the *trauma caused by the use of retractors* or other instruments, or by the irritation consequent upon packing gauze, or sponges in the peritoneum. The trauma upon an already irritated peritoneum being all that was necessary for the slightest infection to start

a most serious condition. In these cases, it is the part of good judgment to avoid every possible traumatism of the peritoneum or intraperitoneal structures. Don't use retractors. Don't use forceps to handle intestines. Keep in mind the physics of intra-abdominal pressure, etc.

In this day the development of septicemia or pyemia following a surgical operation is almost, if not quite inexcusable.

TO SUMMARIZE.

First. Sepsis and shock have an intimate relation inasmuch as shock lowers the resistance of the body and thus favors sepsis. Also, the manipulation which causes shock, by resulting trauma, favors the introduction or development of bacteria.

Second. The careful study and preparation of the patient before operation will accomplish much in preventing both shock and sepsis.

Third. That technique which minimizes or eliminates shock will minimize or eliminate sepsis except from those acts which directly introduce pathogenic organism during operation or during subsequent dressing, or which may develop as the result of undue trauma.

Fourth. All methods which in any way devitalize the tissues through which a wound is made or which will in any way inhibit or devitalize the blood cells will prove a contributing factor to sepsis.

Micro-organisms do not live or develop in normal histological tissues. There must first be a devitalization or death of the tissues to produce a *culture medium*. Hence, if we injure or traumatize tissue we are doing that which favors infection. The practice of using forceps to seize intestine, appendix, or other abdominal structures is the most frequent error in this regard. Traumatism as a prime cause of infective process is not limited to the abdomen. There is little doubt that there can be no infection in any part of the human body without a trauma of some kind, either chemical or mechanical. If this be true, the converse is equally true, viz., when there is an injury of any kind the gates are open for infection.

Metchinkoff, when he taught the world the theory of phagocytosis, and subsequently proved the theory a fact, did much to explain many hitherto unanswered questions. The great practical lesson which we ought all to have learned from it is that whenever we add to existing trauma, or unnecessarily traumatise the tissues in our surgical field, we are calling upon nature's reserved forces, and if those reserved

forces have already been called into action by disease or injury, we are only favoring the slaughter of our soldiers, the phagocytic white blood cells, and this death means the formation of pus. This emphasizes the thought that traumatism plays a very important part in every infection and if we mechanically inflict trauma by unnecessary use of forceps to handle tissues, or of retractors to hold open the wound upon the theory that the instruments can be sterilized while the hands cannot, we are opening the gates for the advent of infection. The surest way to prevent infection of our wounds, is therefore, to inflict a minimum of trauma.

Fifth. Any chemical which will destroy pathogenic bacteria will more quickly destroy the blood cells both red and white and devitalize the epithelium of the skin, thus forming culture medium.

Sixth. That dead blood cells, devitalized epithelium or any other devitalized tissue form a culture medium for pathogenic bacteria, hence favor sepsis.

Seventh. That which will bruise the tissues or which produce irritation of delicate structures (as the peritoneum) can only cause devitalization, hence are contributing factors to sepsis.

Eighth. The greater number of hands through which pass the various articles used in operating must increase the probabilities of infection.

Ninth. The greater amount of manipulation or handling of the parts the greater danger of both shock and infection.

It then follows that those details of technique which will minimize or prevent infection, are, first, extreme care in every detail of preparation of the patient. Study carefully the patient as well as his surgical pathology. Second, avoidance of unnecessarily large incision, because the larger incision increases the amount of handling the parts, increases the shock, increases traumatism of tissue and favors infection. Third, avoiding the use of retractors so far as possible because they bruise the tissues and thus favor the introduction of bacteria. Fourth, minimize assistance because of difficulty in controlling the acts of assistants and the increased handling of articles used, as well as the structures in the field of operations. Fifth, avoid as only evil, all chemical antiseptics, because if used strong enough and long enough to destroy pathogenic bacteria they will destroy the defender of the body, the blood cells, thus creating a culture medium for bacteria in the tissues to which applied.

DISCUSSION.

W. H. Humiston: This practical paper of Dr. Lawrence's is full of many valuable points that we can all use to our advantage. I think today that the technique which is in vogue with the more noted and skillful surgeons renders shock a very rare occurrence. The general preparation of the patient is important, the rapidity of operating, the minimum of exposure of the abdominal contents, and the avoidance of loss of blood renders shock very uncommon. I believe that you should operate with this in view always. Get your patient off the table in the shortest possible time consistent with good work, and with a minimum loss of blood. As soon as I have an abdomen opened, I make free enough incision so that I can work readily, rapidly and intelligently. With the free incision you do not require the use of retractors as you do in a smaller incision. As soon as the abdominal cavity is opened, I pack off the general abdominal cavity with my hand-rolled sponges, and protect the field of operation most thoroughly. I do not hesitate to remove an appendix where I have other operations to do through the median incision. In doing so you must use the retractor to elevate the abdominal wall, and I have a retractor with no serrations in it that I can pick up the head of the colon, draw it toward the median line and remove the appendix with little difficulty. What the doctor says with reference to after care of the patient is very important. No patient of mine sees one of her intimate friends for forty-eight hours after the operation, and I leave it with the patient to express a desire to see her friends—husband, mother, relatives or friends, and that is usually not before the third day. When she expresses a desire, I allow them to enter the room for a few moments, but if you have the bed surrounded with two or three friends the first twenty-four hours after the operation you are doing your patient incalculable harm. No abdominal surgeon today of merited repute visits or takes care of scarlet fever or diphtheria patients. He avoids all possibility of the contagion that may arise in this way. I do not believe the abdominal surgeon has any right to expose himself to these infectious cases.

Ed. Ricketts, Cincinnati: The paper is most practical. There is one thing in regard to assistants as to the use of sponges that I have long since laid stress on, and that is, I never permit an assistant to take a piece of gauze and rub a wound that way (illustrating). You produce very much shock. Always insist on sponging in and out. In regard to the taking care of any of any of these patients, it is an individual suggestion, in which the operator is necessarily responsible from start to finish. The remarks of the last speaker, in which he stated that no abdominal surgeon should come in contact with infectious diseases, I fully agree with and not only that, but he should not mix his bone surgery with the surgery of the abdomen, say with the peritoneum. There are cases in which the man doing bone surgery, that is, suppurative cases, has carried the infection to his abdominal cases, and so he is a dangerous abdominal surgeon, and the sooner we understand it the better. The danger of infection is greatly increased.

In regard to unnecessary work, as few stitches should be used as possible. Simplicity of operation, in and out, quick, not overdoing your operations, as well as not underdoing. In regard to detractors, to a certain extent I agree with the doctor, and yet he says retractors are things to make use of under proper conditions. And as to the incision, you must be governed by the case under treatment. One thing he did not mention, and that is the Trendelenberg position. No man was ever made to stand on his head to undergo a surgical operation. Whenever a man is sick, he is to be placed on a level, and I have never made use of the Trendelenberg position during an operation, be it abdominal, vaginal, hysterectomy, or what not. And I want to call your attention to the fact that the cases on record in which we have ruptured arteries during anesthesia occur more often during the cases in which the Trendelenberg position has been used. As to the use of gauze, it is overdone too frequently.

Before taking my seat I want again to lay stress upon the fact that the man who is doing nasty bone surgery is not the man whom I want to put his hand in my abdomen. He is a more dangerous factor than the man who does not handle them, even if he uses gloves.

Geo. Goodhue, Dayton: I will only detain you for a moment, and that is to emphasize what I believe is important in the way of avoiding sepsis and that is the wearing of rubber gloves. I think that was not mentioned in the paper. I am a thorough believer in it, and I am confident that none of us can sterilize our hands with anything like perfect surety, no matter what antiseptics we may use or how long a time we may spend in its attempted accomplishment. I thoroughly believe in cleansing our hands as well as we can—as well as we used to before the custom arrived of wearing rubber gloves, so that in case they are torn or punctured, the patient's safety may still remain fairly well protected. Yet after all, when we can put on these thin gloves that are boiled, we can feel sure of perfect asepsis of our hands and our patients, I am sure, are free from any of the dangers that they were subjected to before the introduction of them. I think this same thing applies in obstetric work. I think the day has come when it is almost criminal for a physician to attend an obstetrical case without the rubber gloves. I think it is the experience of all in using rubber gloves that they are no detriment whatever to doing most delicate operations, and I simply want to emphasize the belief which is strong within me that the use of them should be encouraged and advocated at every possible time.

J. U. Barnhill: I wish to compliment the essayist on his paper and to simply add a word in regard to the shock that comes very often from the ill administration of an anesthetic. It lowers vitality, makes the tissues more liable to the invasion of germs, and not only that it increases the susceptibility to sepsis, and it is one of the most favorable sources of shock that we have—not immediate shock, but delayed shock, not only by lowering the vitality of the tissues involved, but by suppressing the functions of organs in other parts of the body, as the kidney, etc.

I want to emphasize what the last speaker said in regard to the use of rubber gloves. It is my

observation in recent years that in all of our well regulated hospitals rubber gloves are used. It is not only a source of protection to that particular patient, but it is also a protection to the next patient on which the surgeon operates; in case that first should have been a pus case his own hands are kept clean and they are more easily sterilized and cleaned for an operation following, and we can by the use of gloves keep our hands clean. Another point of very great importance is the aid of early diagnosis in preventing the possibility of infections for subsequent operations for other conditions. A pyemia, for instance, if allowed to exist for a long time, until some other condition exists for which the patient is operated, and you have the presence of sepsis to start with. An early diagnosis in all of our cases is to be sought.

C. F. Hegner: We all take it for granted that a surgeon knows how to do things, but we can't always say as much as to the assistants. As to simplicity of the operating room, the fewer the assistants, the less the complications. It is a considerable advantage for a surgeon to work with assistants in whom he has absolute confidence and knows what they will do in all circumstances, and I think it is a positive advantage for a surgeon to have at least one man on whom he can rely in all emergencies. The condition of the operating room is of importance. If you have one assistant and a nurse, you can do most any operation required. Frequently the operating room is crowded with five or six nurses, not mention the onlookers. They, to say the least, pollute the atmosphere with their respirations and cause particles of saliva to permeate the atmosphere, not to mention the disturbing influence the conversation has. In these days hardly anything is but of secondary importance to the surgeon himself, and in visiting the different clinics I think this opportunity is disabused. Sometimes the anesthetic is crowded and is given too long.

The handling of the patient from the time he is first seen by the family physician until he leaves the hospital is of importance. The fewer people who see the patient the better. Some surgeons do not see their patients only when absolutely demanded. The use of antiseptics should be discarded in all cases. Rely upon soap and water.

The use of rubber gloves is a positive advantage, and if any surgeon will submit to the surgeon that uses rubber gloves he will see how much easier things go in and out. But there is a positive danger with rubber gloves. You might prick the glove or it might become punctured. I spoke of surgeons who knew how to do things, how to use sponges, but would not wash the wound. Then if he has the assistants upon whom he can rely, they will do accordingly.

F. F. Lawrence (closing): Gentlemen, I thank you for your discussions. I said to use the shortest possible incision consistent with good work. Now, it is not possible to do some things through a two-inch incision. Some things you can do as well, however, through a two-inch as through a four-inch incision, for you avoid the unnecessary crowding out of the intestines, and you avoid the necessity of packing with gauze. And I still insist, if my abdomen is opened, and if there is absence of pus, I do not want the surgeon to stick in three or four yards of gauze. I

do not know of a man who will controvert this statement, and that is, that the gauze placed in the abdomen irritates the peritoneal coating of the intestines, and in such a way as to absolutely favor the formation of post-operative adhesions. The traumatism opens the way for the infection which you would not have otherwise, and the thing to do is to minimize the possibility of infection.

Now, as to the other things, the doctor misunderstood me when I referred to the dangers of the family physician visiting the patient. I spoke of the family physician visiting a case of scarlatina or a case of diphtheria, and then visiting an operative case. You may have operated at the home of the patient, and left it in the care of the family physician, and I have known of men to go from a case of scarlatina or a case of diphtheria to such a case, straight from one to the other, without any intervening cleansing of his person, or change of clothing, or use of antiseptics—those are things that are sources of danger, and we should emphasize the fact that the physician must keep himself clean in that way and avoid the possibility of infection. I do not believe that surgeons as a rule do family practice. They realize it is not good policy for them to do so.

Now, the doctor spoke of assistants using the sponges. Gentlemen, I don't know how many of you do it, but I use my own sponges. The assistant is in my way; he is a nuisance. I handle my own instruments also—have done it for years—and I know that I save myself unnecessary handling of instruments and sponges. I count them before the operation and then count them after the operation.

Dr. Goodhue speaks of rubber gloves. Now, I didn't say anything about them. Nor did I say anything about the Trendelenberg position, because when I hear it spoken of as being used as a routine practice I think of a little remark John A. Wyeth made to a woman who tried to sell him an apparatus with which to obtain the Trendelenberg position. He looked it over, turned it around in various ways, and then turned to the young lady and said: "That reminds me—that makes me feel young. When I was a boy I lived on a farm, and down on the farm we used to kill pigs, and we always hung up the pig with the gammon stick." The Trendelenberg position is an absolute detriment. You can't allow the viscera to remain there for thirty minutes or more without doing damage. If you have to make use of it, do it as shortly as possible. Then you must use retractors somewhere.

Now as to rubber gloves. I said nothing as to them because I regard them more or less a source of danger. I use them in pus cases, not in aseptic cases. What we lose in delicacy of manipulation takes off the advantage of safety. I do not think them necessary. The simplest method I use is the method I was taught by Tait some years ago. Before that time I had used everything; carbolic, potassium permanganate, bichloride, and the rest of the m. I then learned to keep my hands clean with ordinary turpentine and soap. Dr. Barnhill worked with me two or three years in a tumbled down shack, and during the whole time we never had sepsis following in the wound, and that is all

we used in cleaning up the abdomen. Keep your hands dry: don't use wet sponges, so as to make a moist warm field, for there you make a bed for the growth of organisms. We sterilize the night before, then in the morning, with a dry gauze pad placed over the abdomen in the interval. As to the use of gauze sponges, I never place a sponge inside the abdomen unless it is absolutely necessary, any more than I would think of putting a sponge down in a wound in the thigh. Make your incision simply small enough in which to do your work. If you cut into the abdomen and find pus, of course you would be doing your patient a great injustice if you did not wall it off from the rest of the abdominal cavity. If you can't avoid it in any other way, use retractors, but only where absolutely necessary. Handle the peritoneum, intestines, and other abdominal structures between the soft parts of the fingers. Do what is necessary, but do the least possible injury; simply minimize so far as you possibly can any possible trauma.

THE TREATMENT OF TUBERCULAR JOINT DISEASE IN CHILDHOOD.

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[Read before the Pediatric Section of the Ohio State Medical Society, May 5, 1908.]

In a previous paper (read last year before the Cleveland Academy of Medicine) I warmly advocated the "Conservative Treatment" of tubercular arthritis in childhood; so strongly do I feel the truth of my position that I take this opportunity to again emphasize the importance of not interfering operatively with the progress of tubercular arthritis in children, unless there be some urgent and positive indication for the resort to the knife. What these indications may be will be spoken of at the end of this paper.

In the '80's and early '90's after the discovery that the real cause of white swelling, cold abscess, joint caries, etc., the various names by which the different forms of tubercular arthritis had hitherto been known—was a definite and ever present germ, the treatment consisted in extirpating the tubercular process as completely as possible. Those were the days of immediate resection, excision, extirpation, erosion, amputation, etc. But the course of time showed the futility of such operative treatment and revealed that an enormous proportion of such operated cases which had been dismissed from the clinics as surgical cures, i. e., whose wounds had healed, had subsequently died from or been attacked by

some other form of tuberculosis. The following operative statistics date from Ebermayer's clinic during this period. As the immediate results of purely operative measures there were

Cured, 56%.
(Including primary amputations.)
Improved, 18%.
Secondary amputation, 19.2%.
Unimproved, 1.8%.
Died, 5%.

Three years later the picture had undergone a radical change; of those who were discharged as cured or improved, including the cases marked secondary amputation, 22.1 per cent died in the interim from some other form of tuberculosis while of the cured and improved 22.1 per cent. either had recurrences with secondary amputation or had some other operation for the same disease. Thus out of the whole number of patients, the results after three years might read as follows:

Cured, 33.2%.
Unimproved, 1.8%.
Discharged, with secondary operation, 19.2%.
Secondary operation or relapse after
three years, 20.6%.
Died, 25.6%.

The explanation of this deplorable outcome lies in the fact that the local joint tuberculosis is rarely the primary or the only tubercular focus in the body. Koenig found at autopsy that 79 per cent. of his cases of bone tuberculosis had active lesions elsewhere.

Despite these incontrovertible facts, the great recent advances in the management of tubercular disease had to come from the medical half of our profession. At the recent Congress of the International Surgical Society held in Brussels four years ago, only three surgeons, of whom two (Bradford and Hoffa) were orthopaedic surgeons, emphasized the importance of other than strictly operative treatment for surgical tuberculosis; but the trend of medical opinion is swinging away from this standpoint and one by one the general surgeons are following the lead of their orthopaedic brethren and are adopting a plan of conservative treatment.

Most orthopaedic surgeons of today differentiate the treatment according to the age of the patient and treat most cases of tuberculosis occurring in patients beyond the age of twenty years operatively, while in younger patients the treatment is strictly conservative. We are prone to operate upon the older patients because in them we know the disease presents a more serious aspect, always placing the patient in danger of his life and because we know even if successful, the conservative treatment will demand at least two to three years of enforced idleness

which most patients can ill afford. Thus all except the mildest cases of tubercular joints disease in adults can rightfully be treated by operative measures; but such operations must invariably be followed by a rigid course of treatment identical with the conservative not only until the wounds are healed but until all danger of relapse and recurrence of any tubercular invasion is past.

It is entirely incomprehensible to me how one can amputate or resect the joints of children except as a last resort and I therefore call your attention to the general principals of the "Conservative Treatment" of bone and joint tuberculosis. The general hygienic and dietetic rules which have been so ably laid down by our highest medical authorities are always a "sine qua non." Abundance of fresh air and sunlight, proper and nourishing food, minute and painstaking medical supervision and the proper baths are the essentials of the so-called "fresh air treatment." It is also well to state that in this connection all forms of local surgical treatment (extension, etc.) which might compel the patient to remain in bed indoors for any considerable length of time, within a hospital or even in his own house are to be condemned in advance. If the prone position is inevitable, then the cot or bed should be movable and the patient placed out under the trees in a tent or upon a porch for the greater part of the day. The ambulatory treatment for the local process effects the general welfare inasmuch as it enables the patients, especially the poorer ones, to get out into the open air, thus increasing their appetite, raising their general tone and nutrition, etc. A change of scene will also be found to be of great value.

Internal medication is to be given only when indicated. Inunctions of olive or cod liver are well thought of, while inunctions of green soap seem to have a very good effect on the joint process.

Within the last few years specific medication in the form of various biologic products—antitoxins, serums, toxines, bacterial vaccines, etc., have been used even more freely for surgical tuberculosis than for the strictly medical forms of the disease and apparently with greater success; although the final judgment as to their real place in our therapeutic armamentarium must be deferred to the future. Of the serums and antitoxines it is necessary to mention only one—Marmoreck's. If the reports concerning its use are to be believed then Marmoreck's serum has yielded as many or possibly more cures than any other form of specific medication. A preliminary report by Freiberg, of Cincinnati, certainly encourages its

trial. Its administration is simple; it is given per rectum and I do not suppose that the vexatious questions of dosage, etc., play as important a role as they do with the tuberculin administration.

Turning to the use of toxines and bacterial vaccines the subject is not so clear, although the clinical results of all the modern methods have been uniformly brilliant—some of our ultraconservative brethren may even say too brilliant. The first form of tuberculine used by Koch known as "Tuberculin Alt" was simply the concentrated germ free culture medium upon which the germs had been grown for several weeks. The same description is true of "Deny's Bouillon Filtrate." The new tuberculines "T. A.," "T. R. Bacillen Emulsion," etc., are all the bodies of the germs themselves freed from the culture medium by filtration and centrifugalization, finely ground and suspended in some preservative such as glycerine. It is claimed that the efficiency of all the varieties of tuberculin depends upon the same factors both as diagnostic and therapeutic agents and their use is only a matter of choice. As first used by Koch and his followers in massive doses tuberculin was a powerful agent for harm and not for cure, and its use was abandoned for over a decade. Only here and there was there "a voice crying aloud in the wilderness," notably Von Rook at Ashville, Trudeau at Lake Sarnac and in the last few years Sir A. Wright, of London. Whatever differences there may be in the embellishment of the methods of these three leaders, as I understand them, they rest upon the same fundamental principal, namely, to institute a process of artificial immunity by beginning with a small dose of tuberculin and avoiding in its use all untoward reactions. But how to do it!

"To opsonize or not to opsonize! That is the question," and the medical philosopher, unlike the melancholy Dane must needs find a logical answer.

The clinical method of Trudeau starts out with the axiom that "the old clinical method (Koch's first experiences) which was tried with such disastrous results was based upon the production of pronounced local and general reactions which were then thought to be essential to the cure." These we now know to have been harmful; the avoidance of marked reactions is now an essential. The clinical method of Trudeau aims to produce a tuberculin immunity and to carry the patient to enormous doses—ten thousand times the initial dose—without marked reactions or any disturbance of the patient's general or local well being. This is accomplished by beginning

with minute doses and increasing very gradually and extending the course of treatment indefinitely to attain the dosage deemed necessary to establish the acquired immunity. Some of Trudeau's rules are:

"Begin with a very minute dose."

"Do not inject again until all effects of the previous injection have passed away."

"Do not increase the dose if a reaction has occurred."

"Do not raise the dose too rapidly or repeat at too short intervals."

Fever, malaise, headache, loss of appetite and increased cough are all evidences that the limit of tolerance has been reached and calls for an interval of rest and a reduction of the dose.

In contrast to this cautious groping, Wright boldly accepts as the sole guide for dosage and interval only one of the many factors of immunity, namely, the power of the blood serum to sensitize the bacteria for ingestion by the leucocytes, as revealed by his (Wright's) method of determining the opsonic index of the blood. His technic is immensely difficult and the chances for error enormous; so that the personal equation of the observer is often greater than the range of the index and it cannot be relied upon unless the investigator is truly an expert. But it is beyond all controversy that the determination of the opsonic index is a good guide—at least in bone and joint tuberculosis—of the proper dosage, the interval between doses and the progress of the patient. Wright injects only minute doses, just sufficient to keep the opsonic index above the normal.

The main difference between the two methods is therefore that of the progression of the dosage and the intervals between the doses (which is longer in Wright's method) and in answering the question which is the more reliable guide for these—the opsonic index or the clinical observation of the patient's symptoms and condition. Two Baltimore observers found that when the opsonic index was taken by two different observers, the difference between their results was often so great that clinical observation alone would have been a more reliable guide as to the progress of the case. Hoektoen and others have also written in a similar vein. An expert observer (one who has been trained in Wright's laboratory) cannot take care of more than from five to ten indices at one time; such men are necessarily scarce and the work expensive. I have been content to follow the clinical method of Trudeau for the treatment of bone and joint tuberculosis with tuberculin in about thirty-five cases with almost uniformly favorable results,

but in no case did I omit any other form of general or local treatment which could favorably influence the course of the tubercular process; and of course I cannot ascribe all or even the greater part of the improvement to the use of the tuberculin alone. I could not consent to the abandonment of all other forms of treatment simply to try out the tuberculin, nor do I think that any one is justified in so doing at the present writing, for our patients demand of us every agency which may shorten the course of their illness and hasten the cure of their dread infection. The harm which may be done by the promiscuous use of such a powerful agent as tuberculin must not be overlooked.

The local treatment begins with rest—at first complete rest. Each surgeon will choose his own methods of accomplishing this. Early or mild cases are usually given some form of fixation apparatus, a brace, jacket, a solid or removable cast and as soon as the pain has subsided can be allowed to use the afflicted part up to the limit of tolerance. Care must be taken that the fixation be perfect so that motion in and about the joint be abolished. The functional use of the part will maintain the strength and nourishment and lessen the atrophy which comes from disuse. In the majority of cases this local treatment will, if started early, result in a useful limb without much or any deformity. My own preference is for the use of padded unremovable plaster casts and I reserve the use of removable apparatus to well conducted sanatoria or private homes where there is a skilled orthopaedic nurse in attendance. For ambulatory practice I use only the solid cast.

Severer cases with a great deal of pain and muscular spasm must be put to bed with an extension apparatus pulling in the line of the deformity which direction can gradually be changed until the pull comes in the normal planes and the deformity is reduced. The extension must be kept up until the "Pain Storm" has subsided when a cast is to be applied in such a way that it will perfectly prevent all joint pressure on using the part. Casts are to be applied and reapplied until the time arrives when motion and use no longer cause pain. Then gentle attempts may be made at correcting the deformity, whether by braces, extension or especially devised casts such as Wolf's hinged casts or Calot's cast for Pott's disease. Brissment force is never allowable on account of the danger of recurrence and of disseminated or military tuberculosis. As soon as practical the casts are to be so applied as to allow of some direct use of the part while still inhibiting motion.

Of late the local treatment by means of passive hyperæmia has been reintroduced by Bier now of Berlin. He advocates the application of a thin rubber bandage applied lightly above the seat of the disease, so as to retard the flow of the venous blood from out of the diseased area for several hours daily. Hyperæmia can be used even though the parts are completely encased in a plaster cast by using an inflatable rubber cuff similar to that used in a Riva-Rocca sphygmomanometer inside of the cast. Bier's pupils have also introduced the use of glass suction cups of various shapes and sizes, for producing hyperæmia, correcting deformity and the aspiration and healing of abscesses and fistulae. The continued application of smaller cups upon the skin over the diseased area has also proven beneficial. It has been shown that passive hyperæmia raises the opsonic index of the part so treated; it is also a wonderful analgesic.

Deformity is always to be prevented when possible by the proper continuous fixation in the physiological position and succeeds in the vast majority of cases. When serious muscular spasms arise and deformity is inevitable it is best not to spend too much time and effort and to waste too much the strength and resistance of the patient in trying to overcome it; but by fixation and extension in the deformed position, together with the usual anti-tubercular regime, so successfully combat the disease that it is soon brought to a standstill and then to treat the deformity by approved orthopaedic measures.

Abscesses are only a symptom of the disease and where deeply seated should be left severely alone and only when they approach the surface and threaten to rupture; should they be aspirated and injected with 30 per cent. Bismuth emulsion and then only through the sound skin and under the strictest antiseptic precautions. Incision is rarely indicated.

Fistulae should only be cupped with Bier's suction cups and kept well drained, but should otherwise be left alone as long as the tubercular process is still alive or sequestræ present. Lorenz has shown that in a large proportion of these cases dying from secondary tubercular meningitis, the fistulae had ceased to discharge a short while before the onset of the fatal meningitis; thus confirming the popular idea of the dangers of a premature closing of discharging fistulae. Abscesses and fistulae are never indications for operative interference upon tubercular joints unless the suppuration threatens the life of the patient. Reviere and Taylor (Baltimore) have both shown that the use of tuberculin by Wright's method has a good effect upon the fistulae even

when secondary infection was present as the opsonic index for the staphylococcus is raised by the tuberculin injections. The aspiration and injection of non-suppurating joints is reprehensible.

All cases should be frequently radiographed and all changes carefully noted.

Such conservative treatment as I have outlined usually lasts from two to three years, being less in the milder cases. In an experience gained from nearly two hundred cases (the last thirty-five being treated with tuberculin) my death rate has been only 1 per cent., both cases being non-suppurating and both dying from tubercular meningitis. I believe to have permanently cured 90 per cent. of my cases which are of long enough standing to draw definite conclusions from. A case can only be considered cured when all fistulae are healed and the patient can use his joint continuously and passive motion causes neither pain nor reflex muscular contractures and the general health and condition of the patient is above par.

Shortening is often inevitable but great contractures and shortening avoidable.

Active tuberculosis usually means a ruined joint; the cartilages are eroded and the capsule infiltrated and the joint bodies deformed. The muscles are atrophic, and contracted. In severer cases the goal usually sought for is a bony ankylosis in an indifferent and useful position, or as Goldwait tersely expresses it, "the best possible functional result is a firmly ankylosed joint in the position most favorable for use. A little motion gives undesirable strain and is often the starting point for a relapse." Many attempts have been made to mobilize such ankylosed joints later in life but with little success. Everything has been tried from injections of oils to plastic resections with the interposition of fat and muscle flaps. Murphy's operations which are possibly the best, have not always given very convincing results. Hoffa has also performed a series of original operations for this purpose, but says of the knee that if it is ankylosed in full extension or nearly so it had better be left alone. For the hip at least a stiff firm bony ankylosis in good position is far more useful than a wabby or partially ankylosed one. Fibrous ankylosis can often be cured by excising the fibrous bands and capsule.

As already stated suppuration alone is no positive indication for operative treatment. When a case of tubercular arthritis gets progressively worse under appropriate treatment and continues to lose in strength and weight, when fixation, rest and extension with the use of Bier's hyper-

aemia fail to lessen the pain; where the disease threatens to get the upper hand, where the X-rays show widespread caries, large infarcts or sequestra or where the long continued suppuration endangers the life of the patient then and then only is an operation demanded. Resection, excision, amputation, curettment or sequestrotomy must be done according to the pathological findings and the course of the disease. Where indicated my own preference is for the completest excisions and total arthrectomies instead of the usual typical resections, excising the joint as a whole without opening the joint capsule just as though it were a most malignant cancer and then closing the wound to heal per premum. Sequestra and infarcts should be removed if possible without opening up the joint and the cavity filled with an iodoform—wax bone plug and the skin sutured without drainage (v. Mosetig technic). Amyloid degeneration, advanced pulmonary involvement or intestinal tuberculosis demand immediate amputation. Persistent fistulae should be curetted and excised only after the disease is entirely cured. They may then also be injected with a bismuth or iodoform wax paste and subjected to the X-ray in the hope that it will set up radio-activity in the mass. (Beck.)

All operative measures must be followed by a rigid course of general antitubercular measures for the cure of the primary focus and the remainder of the disease which has escaped removal at the time of the operation; this is in no case to be omitted and should be persisted in for at least two years although during this time the patient may be up and around and be leading the life of an otherwise healthy man.

A FEW CAUSES OF CHRONIC URETHRAL DISCHARGE—URETHRITIS.

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[Read before the Ohio State Medical Association.]

In presenting this paper, the essayist feels keenly his duty of offering a humble apology for not presenting any thing new in urology, instead of treading on ground that has been quite well covered in the past.

The main reasons for attempting to deal with the subject are on account of its great importance in every-day practice, whether it be the general practitioner of medicine or the urologist, and also on account of it forming a considerable per cent of the genito-urinary practice. Therefore for

reasons just mentioned, it appeared to the writer that it would be time well spent to again bring forward for our consideration the subject of chronic urethritis, even after it has been so often discussed in the past under various titles. In other words, it is its frequency that merits the consideration at our hands. Every practitioner of medicine is well aware of the sad results that quite frequently follow the oversight or neglect to give this subject the proper consideration which it demands at the hands of the medical profession. Besides the medical consideration, there are various legal aspects that the disease under consideration is occasionally subject to, but that phase we shall leave alone.

Chronic urethritis is a lingering inflammation of the urethra attended with a scanty mucous or mucopurulent discharge from the urethra. The essential, and quite frequently the only sign of the disease, is pus; which may be discharged from the meatus, particularly in the morning, or may be found in the urine after careful examination. In former years chronic urethritis meant, in general terms, chronic anterior urethritis and treatment was based on the diagnosis. Now we have learned that chronic gonorrhoea of the posterior urethra is quite a common affection and that it may exist alone or in combination with anterior urethritis. Chronic urethritis may follow any case of acute gonorrhoea. The line of demarcation when the acute form ceases and the chronic commences is not very distinct. It is by the duration of the diseases that the classification, whether acute or chronic, is made. Thus, for instance, White & Martin place the time at ten weeks from the beginning of the disease; Taylor places same at four months, while W. K. Otis, in Morrow's System of Genito-Urinary diseases, places same at eight weeks, etc., running down the line of various authors. From the above it can readily be seen that the leading authors do not exactly agree upon the point when an acute urethritis becomes chronic. The amount of discharge in a case of urethritis is not considered as the criterion by which to classify it, viz.: whether acute or chronic, on account the discharge may be profuse or on the contrary, so slight as to remain unnoticed by the patient, appearing as a drop in the morning, glueing of the lips of the meatus together or as threads and strings in the urine. Nor can we make a positive diagnosis as to the location of the disease—whether in the anterior or posterior urethra, by the appearance of the discharge at the meatus. The accepted opinion is that a drop or two of pus appearing at the meatus in the morning or glueing the lips of the meatus together on the

separation of which a film of glairy mucopus is seen, is usually characteristic of anterior urethritis, as in the involvement of the posterior urethra alone there is no escape of pus into the anterior portion. It is not to be disputed that the above gives us an excellent working rule for practical purposes, nevertheless, occasionally there are some exceptions, for instance, some cases in the extreme terminal stage of the acute affection where the pus is still rather copious and escapes through the membranous urethra forward toward the meatus. Therefore, it may be said that cases of chronic posterior urethritis in which the discharge appears at the meatus are very rare, but they do occur. In rare instances chronic posterior urethritis as a result of excesses, develop into a true acute attack with all the symptoms and may thus run its course. In some cases however, the inflammation extends forward and an acute anterior urethritis develops. When the discharge is well established in the anterior urethra, the suffering resulting from the posterior urethritis alone ceases and the case takes on all the features of a gonorrhoea in its declining stage, glueing the lips of the meatus together, etc.

PERCENTAGE OF CHRONIC CASES.

As to the number of cases of acute urethritis that become chronic there is also a diversity of opinions. Nor can we afford to pass these opinions unnoticed, for the reason that they emanate from men who have had a vast clinical experience in dealing with diseases of the genito-urinary organs and are recognized as careful observers. Here (again) we find Wm. K. Otis makes the following statement: that according to Letzel and Trzeinski, that 92.5 of all cases become posterior and chronic. None of the authors stated the percentage of their own cases that become chronic. It seems to me that the average practitioner will hardly find such a great number of acute cases become chronic. Of statistics that your essayist had the opportunity to compile about six months ago were those of Prof. Ramon Guiteras' clinic of the New York Post Graduate school and hospital, to whom the writer feels greatly indebted for many acts of kindness and encouragement. There we find the following: In a series of 1599 cases of urethritis that presented themselves for treatment, there were 1003 suffering with the acute form, 174 with the subacute, and 422 with chronic urethritis.

Here again we can see a diversity of experience among good clinicians that in the cases of the clinic mentioned, chronic urethritis formed approximately one-third of the total number of

cases of urethritis. Certainly a difference in observation. The prostatic urethra first and the bulbous next, are the seats of predilection for chronic urethritis, although the disease may locate at other places beside those mentioned.

PREDISPOSING CAUSES.

The next point for consideration, is what conditions or circumstances will favor the development of a chronic urethritis. Among those may be mentioned the following: First, the continuance of irritating injections, thereby keeping the urethral canal in a constantly inflamed condition, resulting in a discharge; or during the course of treatment of an antero-posterior urethritis, the treatment is being entirely directed to the anterior portion of the canal, while the posterior is left alone, on account the subjective symptoms of posterior involvement of the urethra (being so mild) such as heat, heaviness and discomfort in the perineal region, frequency of urination, tenesmus, reflex sexual irritability, etc., are not present, with the result of apparently curing the anterior portion of the urethra while the posterior part of the canal still continues to harbor the disease, with the tendency of the infection extending forward to the bulbous urethra and the manifestation of more or less discharge. The only way of detecting involvement of the posterior urethra under such circumstances, is by examining the urine and the finding of pus and comma shreds in the first urine passed, after the anterior urethra has been well flushed. On account of the mildness of the symptoms in some cases of posterior urethritis, a person may have the disease anywhere from one, five, to twenty years, without being aware of same, simply for the reason of there being no visible discharge until an exacerbation occurs. In some instances the exacerbation of the posterior urethritis is mild in character and would not have been noticed, were it not for the development of epididymitis or epididymo-orchitis, as complications. Although we find that according to Taylor and other authorities that 80 to 90 per cent of cases of acute anterior urethritis the entire canal is involved, instead of only the anterior part, as we would be led to believe according to the classification (anterior or posterior) nor is the involvement of the posterior urethra considered as a complication, but on the contrary, it is simply a phase of the disease. It may also be well to state that many cases of posterior urethritis get well without any treatment directed to them, but that even with the cases of spontaneous cure, there still remain a number which do not get well of their own

accord, unless, the treatment is directed to the posterior urethra. Second, cases of urethritis where the treatment was stopped on the disappearance of the discharge from the meatus before the urine was rendered clear and free from purulent shreds. Third, cases where treatment is carried on in a neglectful and careless manner, with no system whatever as to use of instruments, foods and alcoholics; sexual indulgence with probable fresh infections or long continued sexual excitement. Fourth, cachexia associated with nephritis, hepatitis, diabetes, tuberculosis, cancer and physical exertion incident to patient's occupation. Fifth, irritating condition of the urine, viz.: rheumatism, oxaluria, phosphaturia, etc.

PATHOLOGICAL CAUSES.

The usual pathological conditions producing a chronic urethral discharge, may for practical purposes be divided into the following classification. In chronic anterior urethritis the discharge may be due to either stricture, folliculitis, erosions or granular patches and chronic posterior urethritis. In chronic posterior urethritis the discharge may be due to stricture, chronic inflammation of the verumontanum, chronic (catarrhal) prostatitis and chronic (catarrhal) seminal vesiculitis. Of course, there are many other conditions that might produce a chronic urethral discharge besides those already mentioned. In the above classification only the most important pathological factors in proclucing the chronic discharge, are mentioned, while those that occasionally produce a similar condition have been left alone.

We also find many cases where the urethral discharge is due to more than one pathological condition, thus, for instance, the association of prostatitis and erosion; seminal vesiculitis, prostatitis and stricture; folliculitis and stricture, etc.

Of the lesions mentioned, most authors seem to agree that stricture is probably the most frequent cause of chronic urethritis. Involvement of the prostate, seminal vesicles or both, may be considered as next in order, as to the frequency, as an etiological factor as in prolonging the disease under consideration. Inflammation of the seminal vesicles occurs more frequently than what has been supposed to until recent years and too much credit can not be given such men as Eugene Fuller, of New York, and Gueliott, of France, for their researches and bringing forward before the profession the importance of the involvement of these sexual organs and likewise, of the frequency of their participating in diseases of the genito-urinary tract.

Nor can it be said that disease of these organs is in every instance due to gonorrhoeal infection, as we are well aware of the fact that in many cases it is a result of sexual intemperance or with no obvious cause whatever. Of the various reasons that could probably be advanced for the frequent oversight in suspecting or detecting their involvement, might be mentioned the following:

First.—Their anatomical position doesn't seem to attract or have special charms for many surgeons to seek the mystery of a chronic urethritis.

Second.—The frequency of the absence of the classical objective symptoms in their involvement, such as burning pain or itching, heaviness in the urethra, bladder, rectum, anus and perineum; sexual erethism with or without gratification in coitus, increased desire, while little relief or even aggravation of the symptoms may follow the sexual act, etc. The cases of chronic urethritis due to disease of the seminal vesicles may present themselves in the following forms:

First.—The only symptoms observed will be a gleet discharge.

Second.—Gleet complicated by hemorrhagic emissions.

Third.—As cases of relapsing urethritis; the recurrence being occasioned by sexual excitement and due to a smouldering focus in the vesicle.

CONCLUSION.

1. In treating cases of specific urethritis, the surgeon should impress the patient with the fact that the discharge is of a more serious nature than the general opinion entertained by the laity and is by far more serious than a "cold," the oft and common comparison made by many, and unfortunately, occasionally even by physicians.

2. To impress the patient with the importance of faithfully carrying out instructions and that the cessation of treatment and other measures upon the disappearance of the discharge from the meatus, is frequently a serious matter, as many complications of the genito-urinary tract take place with just such a symptom, besides too early cessation or irregular treatment favors the development of complications; although complications might arise even under the most careful treatment, but nevertheless, it isn't so likely as otherwise.

3. Inform patient of the tenacity, persistence and possible complications and that if not completely cured, that he will be harboring the disease in one form or another in his G. U. tract and that in some future day he is likely to infect one who is to be near and dear to him and whom in promising to take under his care and

protection from all sources of harm, he will, instead, be a cause of a great deal of suffering which will befall her after such infection.

4. Not to discharge as cured any case of urethritis without making several microscopical examinations of the seminal vesicles, prostate and urethra, to ascertain their freedom from infection, as we must not forget the fact that in chronic urethritis quite often it's one of the most difficult tasks to find the gonococcus and that the ordinary staining methods for the gonococcus will not give satisfactory results in the chronic form. Besides, we must not rely exclusively upon shreds in the urine for the diagnosis, as even the normal urethra which has never been infected with the gonococcus, may occasionally throw off tripperfaden containing white cells, therefore, necessity of judgment as to nature of tripperfaden in each case.

5. Not to be gloomy in the prognosis of cases of urethritis treated, but on the contrary, encourage patient with hope, as in doing so the patient is more likely to be faithful to himself and his physician.

PROCREATION IN ITS RELATION TO INSANITY, CRIME AND DEGENERACY, WITH SUGGESTIONS OF REMEDY.

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[Read before the Ohio State Medical Association.]

Heredity is directly and indirectly the root of much of insanity and degeneracy. Such conditions as syphilis, alcoholism, poverty, etc., are considered largely as responsible directly or indirectly for much mental disease. Investigation does not go far until we are assured that degeneracy, which is influenced by heredity, is the chief factor in the propagation of the above conditions.

There are no factors that enter into causation of insanity and degeneracy that today show any tendency to become inactive. Heredity is continuously becoming more and more a factor; it is spreading just as do the branches of a tree. All social and industrial factors are increasing. Cities are growing, in which disease is reeking. The growing industrial clamor is gradually making life more strenuous. Admitting these as facts, we cannot but see that the tendency of the

times indicates there is a predisposition to an increase in insanity and that nature alone is unable to thwart this tendency, and man's reforming measures must be instituted in order to turn the tide toward the strengthening of the human race. We believe that nature's tendencies are strengthening and correcting, but at the same time such strong retarding influences can be brought to bear on nature's plans and endeavors as to largely thwart them.

Now, if it is true that retarding influences to strength and vitality can be precipitated against nature, we have a right to believe that beneficial factors can be placed to the reinforcement of nature's efforts.

There is today existing an indifference to the evils of hereditary predisposition that is alarming. Procreation of degenerates, including most forms of insanity, is permitted through a wretched apathy and an infinite amount of time, money and energy is constantly being expended in an endeavor in many cases to restore. And when in a few instances restoration of the mind is produced there is no assurance that it is permanent nor is there any assurance that offspring from such a person will be endowed with a strong and stable constitution. In fact, when an individual has suffered from a well defined mental disease, there is no time in that person's future when he or she is free from the likelihood of begetting a child or children destined to become dependents or perhaps criminals. In the very seed of such an individual there is at all times a potentiality that will not insure stability or remain invincible to the shocking ordeals of life, such ordeals as are commonly known as the exciting causes of mental disease.

There are many striking examples of family trees in which insanity and degeneracy exist to an extremely alarming degree. The so called Jukes family of America is the largest criminal family known, and its history, which has been carefully studied, is full of instruction.

The ancestral breeding place of this family was in a rocky, inaccessible spot in the State of New York. The ancestor of the family was born here about 1720. This man lived to old age, when he became blind, and he left a numerous, more or less illegitimate, progeny. Two of his sons married two out of five more or less illegitimate sisters. These were the Jukes. The descendants of these five sisters have been traced with varying completeness through five subsequent generations. The number of individuals thus traced reaches 709; the real aggregate is probably 1200. This vast family, while it included a certain proportion of honest workers, has been on

the whole a family of criminals and prostitutes, of vagabonds and paupers. Of all the men, not twenty were skilled workmen, and ten of these learned their trades in prison. One hundred and eighty received outdoor relief to the extent of an aggregate of 800 years; or, making allowances for the omissions in the record, 2300 years. Of the 709, there were seventy-six criminals, committing 115 offenses. The average of prostitution among the marriageable women down to the sixth generation was 52.40 per cent. The normal average has been estimated at 1.66 per cent. There is no more instructive study in criminal heredity than that of the Jukes family.

How often has the physician of asylum experience been a party to the little farce of quizzing the patient's parent in an interested manner as to the probable cause of the child's mental trouble where it is plain to him that the chief cause of it all lies in the unsuspecting parent before him.

The fruit grower discourages the propagation of defective and stunted products largely by prophylactic measures. In fact, in all the various occupations dealing with reproduction is there a painstaking care that the product be perfect. We cannot apply this rule to the human family. There is a common disregard in the human race especially for quality of offspring and oftentimes for quantity.

Herein exists the indications for the prophylactic methods to be applied in the problems relating to insanity and its allied conditions. The time will never come, we believe, under present conditions of the world when insanity is no more, but the time could and ought to come when the amount of it is reduced very greatly. No person will scarcely deny the possibilities for its reduction along the lines I am about to advocate, however, much they may question the practicability of applying the remedies.

First Generation	Second Generation	Third Generation	Fourth Generation	Fifth Generation
Father insane	Daughter, only child, became insane	1. Daughter insane	1. Child of first daughter—fate unknown	?
		2. Daughter healthy	2. Daughter insane	None
		3. Daughter insane	3. Son—mania, demented	None
		4. Daughter healthy	7. Healthy children	?
		5. Son insane	1. Son insane, suicide	None
		6. Son insane	2. Daughter demented	None
		7. Son healthy	3. Daughter afflicted with periodic insanity.	None
		8. Son healthy	2. Sons' history unknown	?
Mother healthy			None	None
			1. Son healthy	?
			2. Son insane	None
			3. Daughter healthy	Daughter insane
			3. Healthy children	?
			5. Healthy children	?

PROPHYLACTIC MEASURES.

Today we are "jolly" ourselves and others almost continually over the splendid manner in which we provide for the care and treatment of our insane and the otherwise helpless. Indeed, it is a work of which we should be proud; but, while such good attention is being paid the already unfortunate, we are not mindful of our duty toward society and its predicament through which there is a constant stream of degenerates being produced. We need at the present, and no less have needed in the past, something to be done to at least retard the alarming conditions so indifferently permitted to exist. Long ago has the agriculturist learned to select the best and healthiest of grain for seed as well as to consider the nature of the soil.

We cannot hope for a real Utopia of our country, but many of the present imperfections of our people could be effaced under proper prophylactic measures.

CUSTODIAL JURISDICTION.

Custodial jurisdiction is in a great measure effective in preventing the majority of defectives and chronic incurable insane from coming into social contact, but it is by no means as adequate as it should be. We believe that the segregation of the defective classes in our state institutions for such is not enforced stringently enough. There is altogether too much family or personal option in this matter. Neither should institutions housing such individuals be permitted to release any one of them at any period within the limits of the age of reproduction. As a rule, most of

them are erotic and have no moral sense of the fitness they possess for marriage or any of the rights attached thereto.

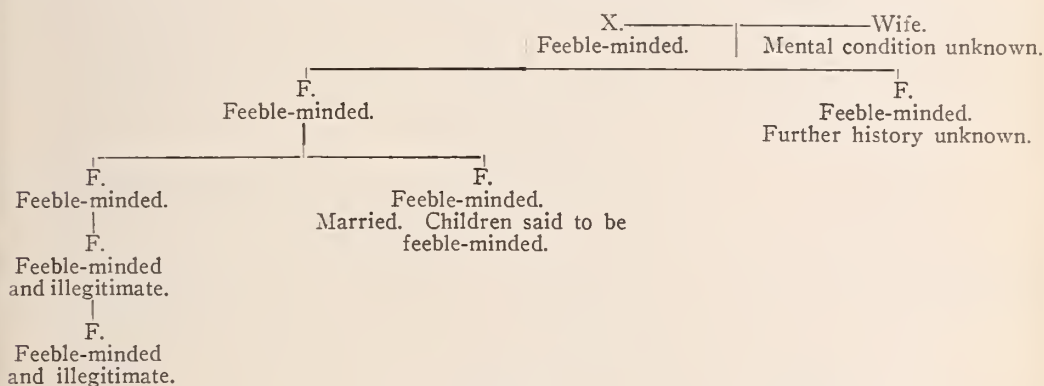
As for the chronic incurable insane living within the reproductive age, the same stringent jurisdiction should be enforced. After a chronic incurable insane woman has reached the age of forty-five years there can be no very substantial reason for preventing her from enjoying personal liberty, excepting, of course, homicidal or suicidal tendencies or other recognized intolerable attributes. However, granting that the defective and chronic incurable insane are in a great measure well cared for so far as they affect society and the posterity, we are not willing to admit that the same is true with the so-called curable insane. Upon reflection we believe that you will agree that herein lies the great danger. Very

which makes its healthy survival quite improbable. The above experience obtains in all the different curable types of insanity. But what is to be done in the solution of such a perplexing problem. We certainly cannot agree to constant custodial jurisdiction of such cases. We will readily admit that it is not just to restrain such an individual during the periods when he or she can agreeably adapt themselves to social conditions. We certainly should not subscribe to the plan of permitting such cases to time after time precipitate upon themselves and their offspring constantly repeated attacks of an agonizing insanity.

LEGISLATION.

For the sake of the insane father or mother who suffers so, and for the good accruing to society by preventing procreation by them, we be-

TABLE PRESENTING AN INSTANCE OF CONTINUITY OF FEEBLE-MINDEDNESS THROUGH FIVE GENERATIONS



few insane are absolutely curable. I will not offer statistics on this subject for they are notoriously unreliable and productive of false impressions. In the truest sense, for example, we are not to consider a case of maniac-depressive insanity as cured when he or she has only recovered temporarily from an attack of either phase of this psychosis. It is a well known fact that they have repeated recurrences and are the notable cases that pass to and fro from hospital and home. In the hospital suffering under the most profound depression or aggravated maniacal excitement, at home during lucid interval partaking of all the privilege of husband or wife and in the case of the wife, becoming pregnant and suffering the shock incident to such a condition and the childbirth, only to precipitate a recurrence of mental aberration for many more months. And aside from this a child is brought into the world very poorly equipped with potential strength

lieve the remedy lies chiefly in the application of reform legislation. Legislation that will provide just, but strict marriage regulation that will tend to safeguard the future generations. Legislation that will legalize the production of sterility in insane or degenerate individuals by the most practical and scientific methods. In such laws only can we see much hope. Education may do good, but our hope for it to do great good seems somewhat forlorn.

Herbert Spencer declares "There is no greater curse to posterity than that of bequeathing them an increasing population of imbeciles and idlers and criminals.

To aid the bad in multiplying is in effect the same as maliciously providing for our decedents a larger host of enemies." Very little has been done in a legislative way intended to check the propagation of degeneracy and insanity. Kansas has a very stringent marriage law directed

against procreation among the degenerate class. The statute provides that no woman under the age of forty-five years, or man of any age, except he marry a woman over the age of forty-five years, either of whom is epileptic, imbecile, feeble-minded, or afflicted with insanity, shall hereafter inter-marry or marry any other person within this state. It is also hereby made unlawful for any person to marry any such feeble-minded, imbecile or epileptic person or any one afflicted with insanity, or any person who has ever been so afflicted. Children born after a parent was insane shall not marry except under the above named conditions.

Having examined the revised statutes of all the states in the Union, we find that many of them contain statutory provisions against the marriage of the defective class. All others de-

of the institution, to examine the mental and physical condition of such inmates as are recommended by the institutional physician and board of managers. If, in the judgment of the committee of experts and board of managers, procreation is inadvisable and there is no probability of improvement of the mental condition of the inmate, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be decided safest and most effective. But this operation shall not be performed except in cases that have been pronounced unimprovable; provided, that in no case shall the consultation fee be more than three (\$3.00) dollars to each expert, to be paid out of the funds appropriated for the maintenance of such institution.

We believe that such reform laws as the above, although not fully adequate, are expedient, and that each state should provide such. In corresponding with the various attorney generals throughout the Union, some of them voluntarily

FAMILY OF MORAL IMBECILE

First Generation	Second Generation	Third Generation	Fourth Generation
Father moral imbecile	1. Son, extremely nervous	1. Son very nervous 2. Son insane, suicide 3. Daughter idiot 4. Son healthy, stutters	1. Son, moral imbecile 2. Daughter dumb 3. Son, crazy pranks; drunkard 4. Son, stutters very badly
	2. Son idiot	5. Son depressed, epileptic suicide. 6. Daughter healthy; died at fifteen	5. Son, nearsighted; otherwise healthy 6. Son; dissipation
	3-4. Sons healthy	7-8. Daughters died in infancy	7. Daughter healthy
	5. Daughter died at fifteen	9. Daughter, strangely shaped head; died at twelve	
		10. Stillborn child	
1	2	5	4

50%

pend for their protection to society solely upon the old common law by which marriage of such individuals may be annulled. Regarding any reform legislation touching upon procreation of defectives, and preventive methods, one state in the entire Union stands out alone with such a provision. Indiana is this pioneer and the statute reads thus:

(H. 364. Approved 3-9-'07.)

Preamble. Whereas, heredity plays a most important part in the transmission of crime, idiocy and imbecility; therefore,

Be it enacted by the General Assembly of the State of Indiana, That on and after the passage of this act it shall be compulsory for each and every institution in the state entrusted with the care of confirmed criminals, idiots, rapists and imbeciles to appoint upon its staff, in addition to the regular institutional physician, two (2) skilled surgeons of recognized ability, whose duty it shall be, in conjunction with the chief physician

gave their opinion, one of which I quote as follows:

"Personally, I believe that such laws should exist in every state of the Union, and every country on the globe."

In considering the Kansas statute regulating marriage we can detect its inadequacy in the fact that there is opportunity on the part of the applicants to deceive and for which there is no penalty. Therefore, it should provide a means for the official issuing the license, whereby he could illicit a denial of the existence of any condition which by law prevents marriage as well as provide penalty for any violation. It probably would be well to penalize any official issuing a certificate illegally or any person performing the ceremony for individuals restrained by legal statutes.

MARRIAGE REGULATION.

To enhance the happiness and perfection of mankind only such individuals as are sound of mind and body should be permitted to marry.

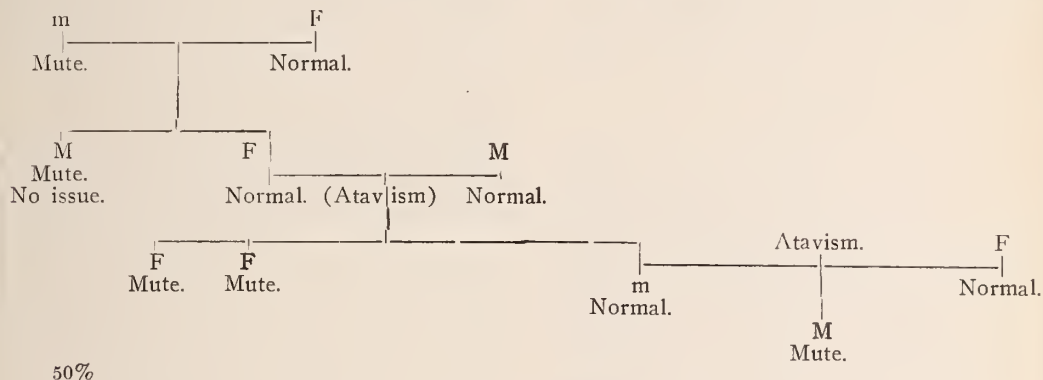
We cannot depend upon the race to resolve itself into a society for the enforcement of such principles that would guarantee the above condition. We do not believe that religion or education will ever accomplish it. Few degenerates

quality of such transaction is of great importance. To insure the best then, there should be some regulation and such regulation should be statutory.

STERILITY.

In view of the foregoing statements we believe that procreation among the insane, and its allied conditions is a very great detriment to the perfection of the race. No single factor will be

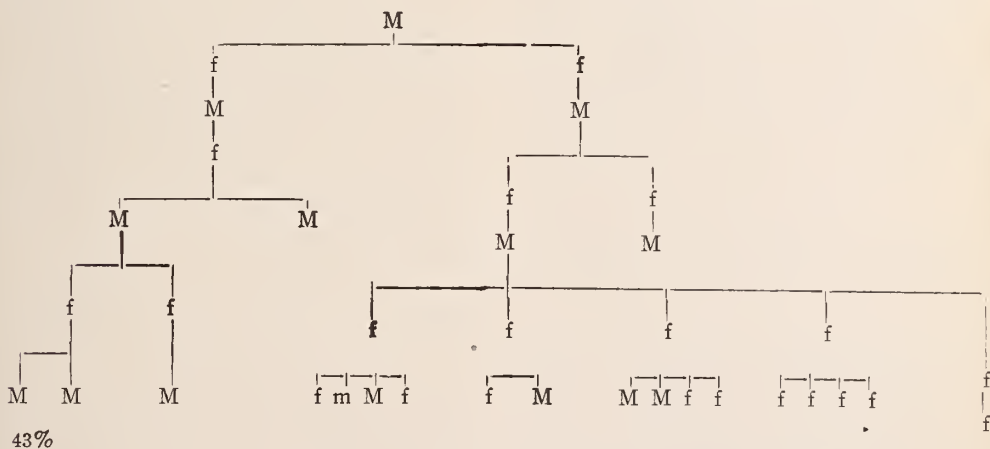
TABLE SHOWING THE TRANSMISSION TO OFFSPRING TAINT OF DEAF MUTISM. ALSO SHOWS ATAVISM



COLOR BLINDNESS.

Capital letters indicate color blind.

Small letters those free from the defect.



recognize in themselves such a condition and some who do possibly realize their weakness are disposed to regard it as a matter of little importance in contemplating marriage, if indeed, they give the matter any consideration whatever.

Marriage is a civil procedure, yet must be sanctioned by law. Why should the public be concerned at all? If it is a transaction that requires legal sanction then it seems to me the

powerful and effective enough to eliminate this procreation. Therefore we advocate that in addition to educational methods there be instituted legislative measures which will not only include marriage regulation, custodial care, etc., but also provide for the sterilization of such persons as are likely to produce more insanity, degeneracy and criminality. The question naturally arises, can such be done safely and certainly. There

are many cases on record where such a condition has been successfully produced when a given physical requirement seemed to warrant it. Another question is prompted to determine whether sterility can be produced without interfering with the individual's general health, or marring his or her marital relations in any way excepting the production of offspring. The experience of those who have produced sterility is that universally the general health is improved and that no function is disturbed other than the power to reproduce. The ways and means of producing sterility will also interest you.

At the present time there are two methods: One is by the application of the X-ray, the other by surgical methods.

THE X-RAY.

In considering the X-ray as a means we realize that as yet we cannot be certain that this is an entirely safe and effective procedure. X-ray operators, who are more or less constantly working with it, have learned that it does produce sterility in themselves. Certain factors enter into the practicability of this means. Much would depend upon the amount of time and frequency of exposure to a patient. Also it is a matter of concern to know that sufficient exposure of a patient to produce sterility did not disturb the health and function of any organs. Again it will be important to know whether or not sterility so produced will remain permanent.

Should it develop that such a means could be applied safely and effectively, then both males and females could be sterilized by the same technique.

SURGICAL PROCEDURE.

However, should the surgical methods be applied then an entirely different operation and technique would be necessary for the males and females.

Various technique are already practiced in the operation upon the female while only one method is practiced on the male. The surgical operations must not incapacitate the individual in the enjoyment of marital relations nor must they endanger life beyond those accidents which might occur in a well regulated and careful surgical procedure.

However, the technique of the various surgeons may differ the aim is to disqualify the tubes for further function. In the female there are two means of entrance, the one by way of the vagina and the other through the abdominal wall, the choice depending largely upon circumstances regarding the patient and the operator. The experienced surgeon should perhaps do the vaginal

operation providing the vault will permit. Other surgeons might do better by using the abdominal incision. However, after the entrance is established, a technique similar to the following given us by Dr. Rockey is generally followed:

"When the cornu of the uterus is brought into the field of incision, seize the tube near its uterine end with a pair of forceps. Thrust the sharp point of a pair of scissors into the cornu and cut out the uterine end of the tube by a V-shaped incision with two cuts of the scissors. Catch the wedge-shaped point of the excised end of the tube with the forceps, draw it out a little between the partly closed blades of the scissors and cut it off. The severed end of the tube will then slip into the peritoneal sheath and be completely covered by it. Pass one catgut stitch through this cuff, then through the fundus posterior to the inner end of the V-shaped incision from behind forward and tie it, thus fastening the closed end of the tube back of its original position. Pass two more stitches around the tube and through the cornu to close the V, control the bleeding and fasten the tube to the outside of the closed cornu."

Other surgeons depart immaterially from this plan. There is also a method by which the fimbriated portion of the tube is the seat of change.

In the male the surgical means is much more simple only requiring a division of the vas deferens or vasectomy. For this operation I give you the technique as applied and described by Dr. Ocshner.

1. Thorough disinfection of the surface over the external inguinal ring.
2. Infiltration of the tissues with a solution of one grain of muriate of morphia, muriate of cocaine and sodium chloride to the ounce of sterilized water.
3. An incision in the direction and directly over the cord, not to exceed one inch in length, down to the vas deferens.
4. Isolation of the vas deferens for a distance of half an inch.
5. Ligation with catgut and section one-quarter of an inch below this.
6. Closure of the wound with a buried catgut stitch, and application of a collodion dressing.

PUBLIC OPINION.

Public opinion will necessarily be a matter of much importance in the establishment of a reform of this kind. There would be a considerable objection of a sentimental character offered by a certain portion of the public. One writer states that modern society often becomes a partaker in crime through its sentimental leniency." Another puts it thus: "Socalled charity joins public relief in producing still-born children, raising prostitutes, and educating criminals," and we would add imbeciles, idiots, inebriates and insane.

However, at the present time we believe conditions are such as to warrant an effort of re-

form and that in many quarters especially those directly affected, the treatment will find welcome.

Previous to the enactment of the Indiana law quite a large number of persons were sterilized by their own and family consent. And we believe, excepting a few instances, that when the subject is intelligently presented for family consideration, making it plain that no interference with personal comfort or pleasure will result and that it means a strengthening of the family in purging it of its degeneracy, it will appeal to the great majority. I feel convinced that in most cases I could induce the family as well as the patient to agree to such a procedure.

PROFESSIONAL OPINION.

It is the prevailing opinion in the profession that such reform measures should be enforced, yet many are conservative in the matter of the initiation. One eminent physician and psychiatrist says, "The method which you propose would, no doubt, be effective if it could be carried out. But before this can be done, if, indeed it ever is possible, public opinion must change radically from what it is now, by a process of education which would be a matter of many years." Another states, "It is a very large subject and far reaching as you and I can imagine the world coming to such a state of advancement that the method you discuss, of limiting degeneracy may be practicable. It is an interesting problem though, I fear, too academic for our present social conditions to permit its solution.

G. Stanley Hall has committed himself as follows: "I have myself long been in favor of making the operation you speak of, a punishment for a certain crime. Also for dangerous idiots and the hopelessly insane, provided it is safe guarded in every possible way by commissions, etc."

A prominent physician and author of text on nervous and mental diseases writes me as follows: "Relative to the subject of sterilizing the insane, I am heartily in accord with the proposition. I am led to suppose that the principle opposition arises from the idea that any interference of this sort necessarily emasculates the insane man, and I believe that if it were generally understood by those who make the laws that an operation could be done which, while it would render a man sterile, would in no other wise interfere with him, opposition to the procedure would very largely subside. I must say, however, that I have seen too many children with insane parents go normally through life, to believe that a radical measure of this sort would not in many instances work unnecessary hard-

ship. And yet I am quite convinced that in no other way can we reach the full measure of safety.

The above quotations give us the drift of professional views of the subject treated in this paper. While I believe the apprehensive spirit existing is not altogether warranted, I possibly may be too sanguine and assured, the result of my enthusiasm on this matter.

THE ADVISABILITY OF OPERATIVE INTERFERENCE IN MALIGNANT DISEASE OF THE LARYNX.

SAMUEL ALLEN,
Cincinnati.

[Read before the Ohio State Medical Association.]

I should like to state at the outset, that this subject was assigned to me. My own experience in this line of work has been so slight, that I should have been exceedingly reluctant to venture a discussion of such a vital matter on my own responsibility. My slight experience has been supplemented, however, by a careful review of much of the literature, the conclusions therefrom being presented in this paper.

Prior to the year 1870, the larynx was looked upon as an organ of such vital importance that no thought of a partial or total removal of the same had occurred to any one. Czerny, at the time Billroth's assistant, learned from his experiments on dogs, that a removal of the larynx was not necessarily fatal, and this led Billroth in 1873 to attempt the first total excision of the larynx for malignant disease. Other surgeons followed, but the results of total or partial excision were so unsuccessful that operative intervention was looked upon as offering no advance in the treatment of malignant disease of the larynx.

Up to the year 1881, the results were uniformly bad, recurrences were frequent and speedy, and the operation was credited with an immediate mortality of 52.6 per cent. Out of twenty-five total and six partial laryngectomies performed up to 1881, but one patient was alive fourteen months after the operation.

The much less severe and function-destroying operation of thyrotomy had been tried in a number of cases, but had fared no better than total or partial extirpation.

In 1878, Paul Burns, reviewing the operation of thyrotomy, spoke positively against it, as being entirely inefficient and useless. In the nineteen cases operated upon by this method, in but a single one was recurrence retarded over a year.

Prior to 1888, surgical interference in this form of malignant disease was looked upon with disfavor. And this whether the operation was complete excision, partial excision, or thyrotomy with removal of soft parts only.

The illness of the then Crown Prince of Germany, afterwards the German Emperor, called the attention of surgeons the world over to this subject, and as a consequence, a great revival of interest in the operative phase of this question took place. Since this time the status of operative interference has completely changed. Surgeons soon began to find out that the trouble was not with the idea of surgical intervention, but with the method of carrying it out.

During the fifteen years (1873-1888) the operation had been performed on unselected cases, and, as in all new surgical fields, the technique had been bad. The accidents and complications arising had not been worked out, nor their causes discovered. With a better selection of cases and improvement in methods, the results soon became more promising.

The year 1888 may be taken as the date of the establishment of radical operative interference upon a firm basis. Deductions as to the value of operative intervention cannot be made from statistics of operations prior to this date. In fact the statistical method can hardly be used in determining the real value of a surgical operation requiring the special experience and technique here necessary. It is only by examining the results obtained by those who have given the matter especial attention, that true conclusions can be reached. General statistics may show us what has happened but they certainly cannot be used to teach us the real value of the operation. Our views have been largely influenced by general statistics, by results of all manner of operators under all manner of conditions, whereas, the true value of the method can only be determined by results obtained by the masters of its technique.

Malignant growths of the larynx may be classed as intrinsic, when they are confined to the interior structures, and extrinsic when they occur on the epiglottis, ary-epiglottic folds, interarytenoid folds, or the posterior portion of the cricoid plate. This distinction, first pointed out by Krishaber, is of the greatest importance. Intrinsic growths are especially favorable for removal, owing to the fact that the lymphatic system of the interior of the larynx is not well developed, and malignant growths of this kind are very apt to be purely local affairs.

Owing to its anatomical structure and its ill developed lymphatic system, there is no place in the body from which the removal of a malignant

growth offers such favorable chances as from the interior of the larynx. While this is true of intrinsic growth, extrinsic tumors present entirely different conditions. These tumors when extensive cannot be gotten rid of without excision of the entire larynx and often of portions of the oesophagus and pharynx, and even then recurrence is fairly common.

A total excision in any but skilled hands is a very fatal operation. Every would-be-operator should realize that this portion of the human anatomy cannot be trifled with, the dangers of shock, septic, and deglutition pneumonia are great. Fortunately for us a large percentage of larynx cancers arise from the true and false cords, are intrinsic in origin, and such cases if seen early can be promised much.

These operations, and by operations are understood radical operations, are classified as, 1 thyrotomy; 2 partial excision; 3 total excision.

By thyrotomy we understand the opening of the larynx and the removal of the soft parts involved. If a portion of the thyroid or vocal process is involved this much of the cartilage structure can be removed without adding anything to the dangers or necessitating any change in the after treatment.

The fact that epitheliomas are by far the most frequent of malignant growths and that their seat of predilection is the true and false cords, makes removal by thyrotomy expedient and possible.

On the Continent the idea still prevails that total or partial extirpation are the only measures to be considered successful. We all know the more or less deplorable condition in which a patient is left after total removal of the larynx, and it is the feeling that such a procedure is always necessary that has made laryngologists look upon malignant disease as such a hopeless matter. Semon's and Butlin's work in England has done much to dispel this feeling. They have shown conclusively that an intrinsic cancer of the larynx may be removed by thyrotomy with every hope of a permanent cure, and with the restoration of a useful if not altogether clear voice. Sir Felix reports the case of a man who subsequent to the operation resumed his vocation as a public speaker.

A great desideratum is the early recognition of the trouble, and we as laryngologists ought to urge practitioners to send all cases of prolonged hoarseness for laryngoscopic examination. The importance of early diagnosis cannot be too strongly dwelt upon, because only in these early cases is a thyrotomy feasible.

A thyrotomy performed in the proper way is practically without danger and is not especially

severe upon the patient. If a patient is able to submit to any major operation at all, he can in all probability stand a thyrotomy. The point of vital interest to us is that when the growth is intrinsic and not extensive the free removal of the soft parts within the larynx has been proven conclusively to offer the practical assurance of a cure. Of course, recurrence may take place, but the fact remains that small growths are in nearly all cases purely local, and a free removal after thyrotomy is all that is necessary.

In performing the operation we must never be led to spare the parts surrounding the growth by any desire to protect the function of the organ. Our only thought must be the thorough eradication of the growth. Fortunately, experience has taught us that the voice function returns in a large measure, even though our procedure be exceedingly radical.

The diagnosis of malignant disease is not always easy; in some cases practically impossible in the early stages. Microscopic examination of a portion of the growth removed endolaryngeally if positive shows the necessity of immediate radical operation. No negative result should be taken as conclusive unless everything else decidedly points toward non-malignancy. If microscopic examination is negative, but the growth is in any way suspicious, a removal ought to be urged. There is no place where loss of time is so important as here. The growth when small can be safely and permanently removed, after extension, operative interference becomes an altogether different matter. As Butlin very truly says: "Every malignant growth of the larynx of intrinsic origin which can be dealt with should be treated by a radical operation in the absence of clinical indications to the contrary, and the operation should be performed with the least possible delay. Even a suspected growth, if intrinsic, justifies an exploratory laryngotomy." I think we are justified by the results achieved by competent operators in dogmatically stating that there should be no dallying with the diagnosis, and that an intrinsic growth presenting any of the clinical signs of malignancy should be removed by thyrotomy.

It is hardly necessary to consider intralaryngeal operations, though the same have been advocated in selected cases by as high an authority as Fraenkel, of Berlin. Intralaryngeal operation offers too little hope of the removal of the entire mass, and the time lost is of more importance than the avoidance of as practical an operation as thyrotomy.

In 1906 Sir Felix Semon was able to say that he had performed twenty thyrotomies for un-

doubted malignant disease, with nineteen recoveries. Between June, 1891, and July, 1902, he operated upon eighteen cases of demonstrated malignancy, and could state in 1906 that fifteen, or 85 per cent., were alive and well, with vocal results surprisingly good.

Jackson, of Pittsburg, reported in 1904, fourteen thyrotomies, with eleven (78 per cent.) alive and well at the end of a year. Such results have established the operation upon a firm basis, so that we may now look to thyrotomy as a perfectly feasible operation for the removal of small intrinsic malignant growths without fear of immediate fatality and with every hope of a permanent cure, with the re-establishment of the voice function to a normal or at least useful degree. This operation has also been tried with some measure of success in the removal of tubercular masses within the larynx. I should say that in carefully selected cases thyrotomy could be very advantageously applied in the cure of tubercular laryngitis. Of course, pulmonary involvement should be very slight, the general health good and the affection in the larynx limited in extent.

Six weeks ago I performed a thyrotomy for a small epithelioma of the left vocal cord. The patient was sent to me for hoarseness of several months standing. The growth was easily recognized, and microscopic examination of a portion removed clearly demonstrated its malignant character.

The patient was in excellent health and condition, and an immediate radical operation was advised and consented to. Thyrotomy was performed according to Semon's method, and the patient made an immediate and rapid recovery. The entire left cord and the tissues about it were excised, together with a portion of the processus vocalis and thyroid cartilage at the anterior angle.

There was no difficulty in swallowing after twenty-four hours, the temperature never rose above 100°, and the patient whispered to me at every visit, "I am not at all sick; I feel all right."

In this operation much depends upon the method. Butlin's idea of removing the tracheotomy tube and closing the tracheal wound immediately after completion of the operation should be followed. This does away with the coughing and mucous discharge excited by the tube and adds very greatly to the comfort of the patient. The wound in the crico-thyroid membrane should not be closed, nor the lower portion of the alae of the thyroid sutured. The patient should be put to bed with the foot elevated and made to lie

upon the side. The oozing, which is copious for the first twenty-four hours, easily escapes into the gauze dressing, which should be frequently removed. The risk of pulmonary infection is thereby minimized.

Of course the time is too short for me to say anything about the ultimate result in this case, but I take great comfort in Semon's statistics.

There has been considerable discussion as to the length of time that must elapse before a cure can be spoken of. It seems to me, and this is the consensus of opinion, that we can hardly speak of a recurrence if there have been no signs for as long a period as one year. A case is on record where the growth in the larynx reappeared after four years and caused the death of the patient, so we can never be absolutely sure of a cure, but for practical purposes a year of complete freedom should allow us to be reasonably certain of persistent and enduring freedom.

I have spoken this length of thyrotomy because it is the operation that most of us who have had no special training in major surgical operations can perform, and because I wish to urge its advantages upon laryngologists. The operation is safe and of undoubted value in proper cases, and its performance ought to be included in the category of regular laryngological operations.

When we come to speak of operations for extrinsic growths, of operations upon such growths as have originated extrinsically, or have extended from an original intrinsic point of origin, we have an altogether different matter under consideration.

With extrinsic growths results depend altogether upon the skill and experience of the operator.

Operators of great skill and experience are obtaining some surprisingly good results, but the man who performs a partial or total excision without a complete knowledge of the dangers of the operation or without that technical skill which is derived from surgical practice, is very liable to get into trouble. Brilliant results have been obtained in very advanced cases by men who have done much of this work. This is, however, no reason for expecting similar results at the hands of any and everybody.

Excision undertaken by men unaccustomed to such major surgical work is what has given rise to the unfounded idea of its necessary great mortality and its uselessness in checking the progress of the disease. Gluck, of Berlin, who has done more and better work of this kind than anybody, speaks of total laryngectomy as follows: "An uncomplicated laryngectomy, which up to the

year 1881 showed a mortality of 52.6 per cent. and gave to those who withstood the operation itself only exceptionally a decent existence for a short time, can today be performed with the same safety as a resection of the appendix during the interval between attacks."

In 1903 he reported a series of twenty-two total extirpations with but one death, and this not attributable to the operation. Also thirty-five hemi-laryngectomies with but three deaths.

When we consider the outlook for these patients, the slow but sure progress of the disease, the suffering and distress sure to be their portion before final relief comes, operation becomes of necessity the only rational treatment to pursue. It would seem our plain duty to arouse ourselves from a pessimistic nihilism which leaves such patients to their fate. There are, of course, many contra-indications, such as advanced age, pulmonary and heart complications or previous exhaustion, which should make us advise against operation; but at the present time the statement can unquestionably be made that any case at all operable should be gotten at surgically as soon as possible.

Nothing can be said for a palliative tracheotomy for threatened asphyxiation except as a means of saving life in an absolutely inoperable case. Some months ago I made such a tracheotomy. The growth has already completely closed the larynx, and, while the patient is still alive, he is slowly dying, has a most troublesome cough and has been incapacitated since the operation. Such a life, with absolutely no hope of improvement, is hardly worth the struggle.

Much stress has always been laid upon the miserable condition in which a patient is left after excision of the larynx. While his condition is truly deplorable, such patients are not altogether bereft of the enjoyments of living. They frequently manage to whisper so as to be understood, deglutition is not interfered with, and some have been able to return to their work and lead valuable lives for a number of years.

What we as laryngologists ought to eternally emphasize is that no intrinsic cancer should be allowed to assume proportions necessitating total excision. Early diagnosis and early thyrotomy cannot be too urgently insisted upon.

The unfortunate cases of extrinsic cancer call for immediate surgical action, unless contra-indications are very prominent. For what outlook has a patient with malignant disease? An ever increasing wretchedness, a disturbance of the vital processes of respiration and deglutition, a misery which opiates cannot adequately relieve. Operation does promise a measure of relief, and

in skilled hands results have been highly gratifying. Can we not, then, answer with an almost unqualified affirmation the query involved in the title to this paper? For my part, I am certainly of the opinion that a radical operation in cases of malignant disease of the larynx is justifiable and advisable in selected cases. And I am equally certain that the category of selected cases will enlarge with the experience and technical skill of the operator.

DISCUSSION.

J. W. Murphy, Cincinnati: I should like to say a word or two on this paper of Dr. Allen's. We all knew the desperate character of these cases and the almost hopeless view even the laryngologists take of these malignant carcinomas in the larynx. But as Dr. Allen has said, where they are intrinsic there is hope for the patient if early diagnosis is made and operation is undertaken for a partial laryngotomy. The condition of the patient afterward is not a bad one at all. I would like to mention two cases that I saw in Indianapolis at our section meeting in February operated on by Dr. Page. One was a man seventy years of age in which a partial extirpation for an intrinsic growth had been made, and this man was apparently well. He was able to go about his vocation and had been for almost three years. He could talk and make himself understood very well. Possibly cicatricial bands take the place of the vocal cords, and this patient was able to talk very plainly.

He also showed another case in which a more extensive growth had been removed from a man about forty-five or forty-six years of age. That was quite a large growth, almost the size of the end of the thumb. This man had also a most excellent result. I forget his occupation. He had returned to his work and told me in almost as plain a voice as I am talking now that he had no trouble whatever. His voice was much better even than the first case. You would not recognize that he had had an operation on the vocal cords, and yet the vocal cords were entirely removed on one side and partially on the other, but as I said before, cicatricial bands had taken their place. It gave a most excellent result. So that these cases are not hopeless, and I believe they are clearly within the province of the laryngologist to operate. He understands the anatomy and the relations of the parts better than the general surgeon, and I believe success will follow our taking charge of these cases, better than if we turn them over to the general surgeon.

A. R. Baker, Cleveland: My experience has been somewhat limited in these cases. I saw Billroth make a total extirpation of the larynx in 1881. I have seen seven cases in which Crile made a total laryngectomy. These patients all recovered from the operation. The shortest case lived nine months, and I think the longest one lived something like five years. I am not sure, but I think the average was about eighteen months after the operation.

The condition of these patients after the opera-

tion has been to me rather a pity. I have had to look after them, and their lot was an unhappy one and yet the patients themselves, generally speaking, were satisfied with the operation. In the last case it was necessary to make a severe operation, as it was necessary to remove the upper end of the esophagus. The esophagus was brought out the side of the neck and the patient fed through a funnel. This old gentleman signified up to within a few days of his death that he was satisfied with the operation. But notwithstanding this I cannot decide the question in my own mind whether the operation is a justifiable one or not. The patient must decide.

The partial laryngectomy as removed by Dr. Allen is a much more hopeful one. Unfortunately the cases I have seen were too far advanced to admit of the lesser operation.

Samuel, Allen, Cincinnati (closing): As to the question of Dr. Baker as to deciding whether these cases should be operated upon or not, it seems to me the other side of the question comes up. What is the outlook, what hope is there for the patient, if we don't operate? First, he will sooner or later have serious trouble with respiration and deglutition unless he fortunately dies before this condition comes on. As a rule these cases ought to be operated on, and, it seems to me, even if the operation hurries matters it is a sort of blessing to the patient in disguise. But if the case is taken hold of before the growth is so extensive the prognosis is better. What I wanted to bring out is that this operation of thyrotomy is a practical and feasible one. We are not general surgeons. I do not feel that we should try to do the general operation of thyrectomy, unless we learn how. A thyrotomy for small intrinsic growth, however, we can perform. It is a comparatively simple operation. We must be governed by the idea that we must not get any blood or anything else into the lungs. Patients die of pneumonia and septic trouble afterwards. And the whole point is to get the tracheotomy tube out. You have to make a tracheotomy, for you must to close off the larynx while working, because the blood will get down into the windpipe and into the lungs. You can paint the larynx with adrenalin and cocaine and avoid much of the hemorrhage. When you get through you must take out the tracheotomy tube. If left in it keeps up coughing and causes irritation and soreness around the tracheal opening, and it is disagreeable to the patient and interferes with the cure of the case, and gives rise to trouble in the lungs. But if you take the tube out and leave everything open below, suture at the top, and put on a loose gauze dressing and lay the patient almost on his face drainage will be established. The oozing is wonderful in the first twenty-four hours, but none of it gets into the lungs, and in twenty-four hours it stops and begins to clear up and the parts to unite. The patient I operated on had no trouble after twenty-four hours, swallowed well and everything was all right. It is the importance of recognizing that we can take out the little growths by thyrotomy, and that we ought not to use intra-laryngeal treatments and fool around until it is too late and we cannot do anything that I want to emphasize.

CYCLOPLEGIA.

ARTHUR J. HILL, M. D.,
Surgeon on Eye, Ear, Nose and Throat to Mercy
and Ingleside Hospitals.
Canton.

[Read before the Ohio State Medical Association.]

CYCLOPLEGIA

Or paralysis of accommodation due to disease is a condition which we are called upon to treat not infrequently and may be caused by diphtheria, diabetes, ptomain poisoning, contusions of the eyeball, severe affections of the nervous system and intracranial lesions such as meningitis, brain tumor and hemorrhage.

Mydriatic drugs in liniments, ointments, suppositories, and internal remedies may bring about cycloplegia.

It may arise from paralysis of the ciliary muscle or of the oculomotor nerve which supplies it.

It may be only one of the symptoms of a complete oculo-motor paralysis and it may exist alone, but in most cases is associated with paralysis of the circular fibers of the iris.

THE SYMPTOMS

are dilatation of one or both pupils with diminished visual acuity for the near and far point in hyperopes, near only in emmetropes and recedence of the near point in myopes.

Reduction of or subnormal accommodation, occurs in the prodromal stage of glaucoma, sympathetic ophthalmia and even sympathetic irritation, and occasionally without any apparent reason.

I have at this time a patient, aged forty, whose mother is blind from glaucoma, but who has never had a glaucomatous attack, although her tension is plus 1 in the right, whose corrected vision in either eye is $5/4$, who cannot read or sew without plus lenses. She is a neurasthenic and a very good subject for a glaucomatous outbreak.

I have also a case of sympathetic irritation (who so far has declined enucleation), aged forty-one, who cannot read at all without plus 3 spheres added to his distance correction.

I have another case, a physician, aged thirty, who wears plus 1.75 sph. added to his distance correction, for near work.

The prognosis depends entirely upon the cause.

The treatment is the treatment of the etiological factor. The treatment of diphtheric cycloplegia is the treatment of the post-diphtheric palsies.

Of syphilitic cycloplegia, mercury, iodids, etc. Myotics do some good. Dark glasses for constant wear and near lenses may be ordered.

It is to the cycloplegia produced by mydriatics to determine the refraction rather than to their use as diagnostic or curative agents that the writer wishes to refer particularly, not only because exact refraction constitutes the major part of our work but because exact refraction is the preventive medicine of ophthalmology.

In cities like Philadelphia, for instance, where careful refraction has been done the past thirty years, for rich and poor alike, noninfectious diseases like glaucoma and cataract; blepharitis, chronic conjunctivitis and even styes are comparatively uncommon.

"Whatever is worth doing, is worth doing well," is an old and a true saying, which applies with special emphasis in determining the refraction of sick eyes for upon exact corrections depend the comfort, integrity of the eye and even the general health of the patient; and no one has a moral right to decide whether these eyes are functionally or organically diseased, whether they need lenses, constitutional or local treatment or all three unless he has had a thorough training in general medicine as well as in diseases of the eye.

This leads me to speak of the blatant, refracting optician whose work should be confined to the bench where he could not masquerade as an "eye specialist" and prescribe lenses for eye-strain, squint, glaucoma, retinitis and even epilepsy, the results of which we have all seen. This brings to mind a case of monocular blindness who consulted me several years ago. She was in great mental distress, not because of the loss of sight which was from thrombosis of the central retinal artery, but because one of these self-constituted and self-made "eye specialists" had gravely advised her never to become pregnant or she would lose the sight of the remaining eye also.

It is the writer's practice, in the absence of contra-indications, to order a drop of a 4 gr. solution of atropine sulphate to be dropped into the eyes, three times a day for three or four days before measuring the refraction in children and youths.

In adults past the age of thirty-five, a drop of an 8 gr. solution of homatropin is instilled every ten minutes for an hour before refraction, which is begun, even at that age, with some misgivings as to its efficiency.

Scopolomin is his favorite cycloplegiac. It is nonirritating, cheaper and much more reliable

than homatropin and the effect lasts but one day longer.

Are cycloplegiacs harmful? Are they the dangerous "poisonous drops" which we hear so much about, but whose direful effects we rarely or never see? After an experience of more than 2000 cycloplegias in private practice I have never seen any bad results, neither have I heard of any in the practice of my friends. I am therefore forced to the conclusion that they are harmless when properly used.

No doubt cycloplegiacs have rendered manifest a latent glaucoma but I doubt very much whether they are capable of producing glaucoma in healthy eyes and should I develop glaucoma after the use of a cycloplegiac, I should be forever grateful to the ophthalmologist who made it possible for me to know that my eyes were in imminent danger of that dread disease from which there was no recovery until von Graefe's time. So far as I know there is not a prominent ophthalmologist in this country today, who claims to be able to measure the refraction correctly in nonpresbyopic eyes without the use of a cycloplegiac.

The fact that Nature puts a cycloplegiac into the eyes of every presbyope is an indisputable argument for their use when indicated.

In measuring ametropia perfectly, ophthalmometers, prisoptometers, retinoscopes, punctometers, astigmometers, optometers, etc., can never take the place of a reliable cycloplegiac, test case and that ingredient which Opie told his students to mix with their colors.

DISCUSSION.

I. A. R. Baker, Cleveland: I think most of us have gone through a period of thinking we can correct refraction without a cycloplegiac. In 1887 in Washington I read a paper before the International Medical Congress on retinoscopy, and advocated the position that in many cases we might correct errors in refraction without a cycloplegiac. I took my seat and sat alongside of Dr. Swan Burnett. He reached down and put his hand on my knee and said, "Doctor, you cannot do it. That is not the way we do it. You go home and for a year use mydriatics in cases that you have refracted and you will be ashamed of your results." It was the sort of advice an older man gives to a younger that I never forgot. I went over my refraction, and I have never attempted since to correct the refraction without a mydriatic. I was heartily ashamed of my work.

C. F. Clark, Columbus: I was very much interested in the first part of the doctor's paper, as well as that relating to cycloplegiac drugs. I occasionally have patients with a form of cycloplegia which puzzles me greatly. This morning a woman entered my office who was evidently a neurasthenic. She had one pupil widely dilated, requiring +3 lens. She was only twenty-five or thirty

years old. One pupil was scarcely dilated at all and almost immovable, while the other was quite widely dilated, and in that eye, the right, she had almost complete paralysis of accommodation. She could give no reason for it at all and I still have her under observation. She is only one of quite a number of cases in which I have been able to find no history whatever of any drug or disease that would account for the paralysis. She had headache a few months ago and went to an optician who gave her bi-focal glasses which made the eyes comfortable and relieved the headache. I have seen a number of instances of this kind that were to my mind unaccountable. Yet I have seen cases where it was the early stage of some profound nervous lesion. In one instance it was the early stage of a general paralysis. She was the wife of a prominent surgeon here in Columbus. She was walking the street and one superior rectus suddenly became paralyzed, producing ten degrees of deviation downward. I made her more comfortable with a prism. A few months later I learned that she was insane and shortly afterward she committed suicide. That sequel may not mean anything, but in several other instances of an unaccountable paralysis of the iris, and there has followed some form of mental disturbance. The development of mental diseases does not, of course, account for the cycloplegia, but the two conditions are sometimes associated.

O. B. Monosmith: In a number of papers I have read, written by these so-called optometrists, they have claimed that in cases where they have examined the amplitude of accommodation and made a record of it, and these same cases have gone to oculists and had a cycloplegiac used, and when examined by the optometrist six months to a year afterward, they have found that the amplitude of accommodation had been reduced from one to two dioptres. In three cases referred to by the optometrist which he examined six months afterward he found their amplitude reduced one and one-half dioptres. I should like to ask the essayist his opinion on this point. I wish also to report a case that came to me in which I used the cycloplegiac myself. She came wearing cylinders placed at an oblique axis. I dropped the medicine in myself, a one per cent solution of atropine, three times a day for three days. At that time vision was 20/20 in each eye. I thought perhaps the atropine was poor and a fresh solution was made and used three days more when the vision went to 20/30. Used it again three days and it went up to something like 20/40 to 20/50. I continued to the twelfth day, when it went to 20/100 and the refraction showed a plain spherical error of +2. This correction gave her complete relief. In the two years preceding this examination she had received at the hands of the most prominent optometrist in the state twelve corrections. It simply illustrates to my mind that three days are not always enough to produce complete cycloplegia with a one per cent solution, and in this particular case three days were no advantage over the regular method used by the optician.

Dr. Hill (closing): If there was subnormal accommodation in Dr. Monosmith's case after the use of "drops" there was before, because we

know that the effect of atropin never lasts over two weeks.

Atropin does not always produce cycloplegia. Edward P. Morrow, of Canton, had a patient some time ago who had a four-grain solution instilled daily for two or three weeks without effect until a large septal spur was removed when paralysis of accommodation occurred at once, showing that intra-nasal conditions have something to do with cycloplegia.

Homatropin, in my opinion, is responsible for more unsatisfactory cycloplegias than all other mydriatics and when a patient goes from one oculist to another, the trouble lies in the cycloplegiac rather than in the patient or oculist.

REPORT OF A CASE OF RABIES, AND REPORT OF PROPHYLACTIC OR PAS- TEUR TREATMENT TAKEN AT HOME BY THE WRITER.

BY G. W. ROGERS, M D.,
Columbus.

[Read before the Ohio State Medical Association.]

On the morning of November 22, 1907, a young colored man, aged nineteen years, walked into my office with a bandage saturated with blood drawn over his face and upper lip. He reported that about one hour and a half before he had been bitten by a strange dog, a Scotch collie.

While driving a team and wagon on the road just east of Lane avenue bridge, Columbus, he had stopped for a few minutes and jumped off the wagon in order to be better able to roll some cigarettes, and while doing this he saw a dog approaching, and as the dog came nearer he stepped out in front of it and spoke to it, walked nearer and attempted to pat it. The dog at first allowed the patting, but soon sprang at and bit him in the right upper lip, tearing a deep wound about one inch long.

The wound bled freely. After considerable delay he came to my office. The wound was cleansed with hydrogen peroxide, cauterized with carbolic acid and closed with horsehair sutures. Boracic acid, sterile gauze and adhesive tape completed the dressing.

Patient said the dog ran away, and he did not know what became of it.

About five days later patient returned to my office, and, the wound looking well, I removed the stitches.

On December 23, 1907, patient again returned to my office; complained of feeling tired, weak and difficulty of breathing at times, and, as he expressed it, "My breath fades away." Also complained of sore throat and difficulty in swallowing food and water.

Upon examination found a temperature of 100 degrees, glands of throat but slightly enlarged, the throat and pharynx considerably inflamed, but not much swollen. Patient had much difficulty in holding mouth open during examination. Later, while spraying throat and giving solution for a gargle, patient made several attempts before being able to let me spray or take gargle in his mouth, usually ending in a spasm of throat and jaws and contortion of face. After a number of attempts succeeded fairly well. I then prescribed a nerve and heart and respiratory stimulant for patient. Next day his people reported he was feeling somewhat better.

On Christmas night was called to patient's home and found him laboring under considerable excitement, shouting, praying and showing considerable saliva, but not froth, in mouth. He at times had a silly expression of countenance. He seemed to think that death was near, judging from his remarks. I had not at any time suggested to him that his illness might be caused by the dog bite; neither had his people. I immediately gave him a hypodermic injection of a No. 1 hyoscin morphine and cactin tablet. After some fifteen minutes he became quieter. He complained of some pain and oppression about the heart and difficulty in breathing; had complained of it during the day. On examination found throat in about same condition as before noted, when he was at my office; also the same difficulty in swallowing fluids and water was noticed as before mentioned. The heart sounds and respiration were fairly good. I did not take temperature, but think there was but little, if any, elevation. I had him go to bed and advised the family to stay away from him as much as possible, but to watch him closely and note condition.

Early next morning was informed that the patient was dying. Later went to his home, being accompanied by Dr. A. S. Barnes, of Columbus, whom I consulted the night before previous to my visit to see the patient, as consultant. On our arrival at patient's home found him dead. The family informed us that the patient had been quiet for about two hours after giving the H. M. and C. tablet the night before; then he became quite restless and at times noisy. About three hours before death he asked for something to eat and drink. Food and water were given him, but later vomited. Family reported that patient ate and drank this without much difficulty. About one hour later he became quiet and helpless, as though paralyzed. He remained in this condition until death, about two hours later, dying without a struggle or convulsion.

On report that patient had been kicked in the stomach about ten days before during an altercation with a neighbor I thought best to call Coroner Murphy. After some investigation he ordered an autopsy. Assisted by Dr. Ernest Scott, city bacteriologist, and Dr. A. S. Barnes, we held an autopsy.

The different organs of thorax and abdomen were carefully examined; nothing abnormal noticed nor any injury found as result of kick received in abdomen during fight with neighbor. We next opened skull. The different parts of brain were normal and apparently healthy. Dr. Scott took a number of specimens from Gasserian Ganglia and brain substance for later examination. The body having been embalmed before autopsy, Dr. Scott was unable to make a culture test for rabies, but had to wait for hardening of specimens and make a microscopic examination. This examination showed degeneration of nerve cells, as always found in cases of rabies, and conclusively proved that death was caused by rabies.

Dr. Scott has kindly mounted some specimens from brain, and we have one here for inspection, showing the degenerated nerve cells, as found in a case of rabies.

On Christmas night, the night before the patient died, I received an abrasion or scratch about one inch long, on palmar surface of left thumb, in some manner unknown to me. As soon as convenient, after attending the patient, I cleansed and dressed this wound. Later when the microscope conclusively confirmed our diagnosis of rabies, I feared that I might have been infected by the patient the night before his death, through means of the saliva he was expectorating and slobbering, coming in contact with the scratch on my thumb. After consulting with Dr. Scott, we decided to get the opinions of others. Accordingly, letters were written to Dr. William H. Park, Department of Health, New York, and Dr. Hektoen, Rush Medical College and Memorial Institute of Infectious Diseases, Chicago, and Dr. Lagorio, of Chicago Pasteur Institute, was consulted by a friend. My case was described and their opinions asked as to the danger of being infected from saliva of patient having rabies coming in contact with scratch on thumb.

Dr. Park replied he thought there would be some danger from saliva of patient, and further said: "If I had a fresh abrasion, I should prefer to take the treatment, if it came in direct contact with saliva from case."

Dr. Hektoen replied: "It is my impression that the saliva of a patient with rabies may be infectious. I believe it best, under the circumstances,

to make assurance doubly sure by taking the regular Pasteur treatment."

Dr. Lagorio said he did not think there was much chance of danger, but to be sure, advised taking the Pasteur treatment.

Under the conditions or danger to which I had been exposed or subjected, and having the opinions of the parties just named, I decided to take the Pasteur treatment. The next question was, where to take the treatment? At Chicago Pasteur institute, or to take the treatment at home?

I decided to take the home treatment. Accordingly, Dr. Ernest Scott, City Bacteriologist, ordered the virus for me, it being supplied by Dr. D. W. Poor, Assistant Bacteriologist, Research Laboratory, Department of Health, New York. The New York Board of Health send out the virus on demand. In a circular letter they give some directions as to treatment, which read in part as follows: "The Pasteur treatment will be mailed daily by special delivery. Upon its arrival the bottle should be put in a cold place and the injections given as soon as possible. The contents of bottle should be shaken thoroughly before using. The injections may be given with a sterile syringe. If heat is used, the syringe must be allowed to become cool before using. If a germicide is used, this must be thoroughly removed with sterile water. After a preliminary cleansing of the skin, the injections are given in the subcutaneous tissues of the abdomen, widely distant spots being selected for consecutive injections. No after-dressing is necessary. The patient's bowels should be kept freely open during the course of treatment, and alcoholic excesses avoided. During the latter part of the treatment a slight transient reaction about the puncture may be expected. Persistent signs of inflammation should be treated in the same manner as for cellulitis. The duration of treatment varies from two to four weeks. The fee is \$25.00. It is important to remember that this treatment is perishable, and cannot be stored to be given out at future date, and that the doses should be given in the order in which they are sent. Physicians are cautioned against inoculating themselves with the virus of the later injections."

In my case the virus was received daily, extending over a period from January 17 to February 4, 1908, by Dr. Scott, at office of Columbus Board of Health. It not being convenient for Dr. Scott to give me the injections, I made them myself, using an ordinary hypodermatic syringe; sterilizing syringe before and after using, also cleansing skin at points of injection with alcohol. The doses for a few days were six (6) c. c. in broken

doses; later the dose was $2\frac{1}{2}$ c. c. until end of treatment.

The first treatment made me feel weary for several hours afterwards. The second treatment, six injections, occurring at 2 p. m., was felt quite noticeably by 5 p. m., feeling uneasy and faint; could not eat any supper. About 7 p. m. started out to call on patient near my home. While on way was seized with a chill so severe as to cause me to stop, shake, and gasp for air. After a few minutes, I proceeded to house of patient. Here I took a dose of strychnia, atropine and nitroglycerine. After prescribing for patient, returned home, still cold and chilly. On arrival at home, drank two glasses of hot water, and later took more strychnia, atropine and nitroglycerine, then retired. By 11 p. m. reaction set in; by midnight had a temperature of 104 degrees, pulse 110 and very restless. After bathing face and hands in cold water, and taking a dose of acetanilid, returned to bed. In a couple of hours was sweating, and by 6 a. m. temperature had declined to $99\frac{1}{2}$, pulse 80. During day following felt quite weak, but little fever noticed, not but slight fever noticed at any time afterwards during the treatment.

Intense soreness and swelling resulted from second treatment at points of injections, the cellulitis produced being about the size of an ordinary hulled walnut at each point of injection; the inguinal glands were also very much swollen and sore, making it quite difficult to arise or sit down, or get in or out of my buggy. I continued the daily treatment to end, with no great swelling from later injections, but causing a great deal of soreness, weakness, discomfort and anorexia. The cellulitis remained for several weeks after end of treatment; two of the swellings had to be punctured, a yellowish fluid escaping.

Why I should get such a severe reaction from the second treatment, I am unable to say. However, I suspect I received one of later treatments instead of the strength I should have received for second treatment.

Dr. D. W. Poor, New York Board of Health, said it was unusual and could not, at least did not, account for it.

During treatment my appetite was very poor. My weight decreased more than twenty pounds, and at present time, more than three months later, have not fully regained it.

At times during treatment I suffered from lameness and swelling of tendo-achilles, alternating right and left, then both, making locomotion difficult at times.

During time of treatment did not keep any regular office hours, because of great weakness

and prostration generally experienced, and especially noticed for several hours after injections were made.

The injections became monotonous and obnoxious, but knowing my duty, did it, and I was very glad when the last was ended.

Judging from what I have heard and read, think my experience was more severe than usually experienced by those taking the Pasteur treatment; but in conclusion will say that I would take the treatment again if I was infected or thought there was a possibility of being infected with rabies.

DISCUSSION.

Joseph Eichberg, Cincinnati: The question of the actual existence of rabies has been raised so many times by the laity and by the profession, that I think it is well the state society has been favored with this case. It is not given to many men to see a case of rabies. But one ever came to my notice, a little child bitten by a stray dog. The child, which was about three years old, succumbed to an acute attack about fourteen days after the injury. The symptoms were entirely different from the case reported by Dr. Rogers. It seems there is for the humans and for animals the dumb and paralytic rabies and the convulsive form.

I saw the child in consultation with the regular attendant about eighteen hours before death. There was a free flow of saliva from the mouth, unconscious, temperature 102, respiration rather slow and irregular, and at intervals of about two minutes the body was thrown almost from the bed by convulsions affecting the dorsal muscles and head drawn back and the body thrown entirely off the bed. There was absolutely nothing to be done but to give morphine hypodermically.

Since that time I have had under my care two persons who had been bitten by a dog, one of which was known to be suffering from rabies and the other merely suspected.

The first case was a gentleman about forty-five years of age who was very fond of dogs and kept a number about the place. He noticed that one of his pets had become morose and irritable and got into trouble with another dog. In attempting to separate them this dog snapped at his right hand and made six punctures. I advised his going directly to New York and consult Dr. Poor, of the New York Research Laboratory. After receiving some treatments there he returned and the treatments were continued in Cincinnati. Fortunately the body of the dog was still accessible and was brought into the laboratory within twelve hours of killing. We removed the brain and spinal cord and made lacerations at the base of the brain and made our injections into guinea pigs and rabbits. They succumbed to paralytic rabies in the usual time. In the ganglion cells of the rabbit we found the characteristic bodies.

In the other case a lady was bitten by a pet dog which snapped at her hand. There was no evidence to show the dog was mad and we were unable to secure the animal, so I am not able to

say anything about it. But in the first instance the dog was unquestionably affected with rabies.

In the laboratories of the Russian physicians, who have a better opportunity to study rabies than have any other, it is said that bites on the hand, or anywhere other than the face, rarely lead to rabies. But bites on the face are almost invariably fatal because the virus seems to be carried by the ganglion back to the base of the brain.

The most important thing is that the wound be properly cauterized with nitric acid. This is the best means we have of protection. Hemorrhage, however free, does not relieve the individual from liability of disease, but cauterization seems to offer protection if properly applied. It is well to bear this in mind in treatment of wounds of the hands, the face or anywhere else. It offers better protection than any other means of cauterization used.

E. Scott, Columbus: In regard to the autopsy of the case reported, I never performed an autopsy on a more apparently healthy individual. The organs were normal throughout. The microscopic examination of the organs proved them normal. Owing to the fact that the body had been embalmed a few hours, it was impossible to make experiments. But in the gasserian ganglion I found the changes, the multiplication of the endothelial cells; they were thickened and increased in a large number of the ganglionic cells. In many the cell itself had disappeared and replaced by overgrown endothelial cells. This disease is becoming more common in this country and is being thought of more often by the profession and by the public. The census reports of 1890 gave one hundred and sixty deaths from rabies, from seventy-three cities, two hundred and fifty deaths. There have been three deaths from rabies in our state this year, and the one reported was Christmas day, 1907, so there have been practically four deaths in Ohio in four months. The fact that the Pasteur treatment must be given before the symptoms of the disease develop makes it important that an early diagnosis be made. In searching for means of diagnosis, these changes were discovered and quoted in 1900. Since then the Niger bodies have been brought into importance and are considered even more important. They appear earlier in the disease than do the changes in the ganglion. By these two methods we have an easy method of arriving at an early diagnosis. The diagnosis in this case was made solely on the changes in the ganglion, and yet I had confidence enough in that to recommend the Pasteur treatment, and on further examination of these slides I felt justified in doing so. The changes are marked, and all pathologists who have seen it agree that the changes are unmistakable. So that the laboratory is an important aid in the diagnosis of these cases.

If you have the case of a person bitten by a supposed mad dog, do not let them kill the dog. These changes come on in the course of the disease and the most marked are only to be found where the dog has died a natural death. So if the dog is allowed to live two days or a week and dies a natural death, then we may hope to

get these changes in the ganglia and make a diagnosis.

Frank Warner: It has been our experience in the Board of Health that we always find changes in the gasserian ganglion as well as those bodies in the brain, which are helpful in diagnosis. It is a multiplication of cells crowding out the nerve cell. If you will look carefully over the field of the microscope you will find in some this multiplication of cells. There is also some of the degenerative change, and this coupled with the Niger bodies make the diagnosis absolute.

The point brought up of cauterizing with nitric acid is an important one, but it seems to me in addition that all of us should try to inculcate the idea in people of shutting up these dogs in accordance with the idea of Dr. Scott, because so many of these changes do not occur early, and it is more satisfactory to find more than one symptom to make the diagnosis absolute.

A. S. Barnes, Columbus: This interesting report carries some lessons which it is important for the physicians of the community to teach to their patients. A wandering dog which cannot be accounted for needs observation. People look to us as teachers of health questions and it is our duty to emphasize the fact that the dog should be captured and kept until natural death ensues. The wound should always be treated as suspected rabies. I had the privilege three years ago of witnessing the last twenty-four hours of the life of a boy of five years who had been bitten several days before by a strange dog. An effort had been made to have that child given the Pasteur treatment; they had neglected it and the symptoms of the disease appeared, after which time we all know nothing can be done to stay the progress of death. The time to use the Pasteur treatment is before the symptoms of the disease appear. That is, as soon as possible after the patient has received the injury.

I am glad to hear the nitric acid spoken of, but that is not sufficient of itself. Dr. Fish, of St. Louis, says that in some cases every means known except the Pasteur treatment were used and death ensued. We are not justified in any case of suspected rabies in neglecting to use the Pasteur treatment. Four years ago we had some legislation on suspected rabies, by which the state will pay for the treatment up to \$500. The fund was taken from the dog tax. There has been a change and the law is that the bite is from a canine. I asked the representative to have that law revised to include all other animals and human beings; unfortunately the latter has been left out, and now we have the law to read to cover dogs, cats and other animals.

These matters should be followed up by physicians and the act put in such form as we want it. There may be a question about human beings being other animals, but it is possible for a human being to carry the infection. The fund now comes from the general fund and not the dog tax fund. It is difficult to get them to boil the water, but this does not relieve us from our responsibility as teachers in matters of public health.

THE ELECTRO MAGNET IN REMOVAL OF IRON AND STEEL PARTICLES FROM THE EYE.

VICTOR RAY, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

Fortunately a large proportion of the metallic particles that enter the eye are attracted by the magnet, for if it were not so, a great many eyes would be lost, even though we might know with absolute accuracy the location of the F. B.

The manipulations in the interior of the globe would in the great majority of cases not only be fruitless, but would also bring about such a reaction, that a complete destruction of the eye would follow.

There are unfortunately now quite a number of alloys of iron, those particularly containing nickel and manganese, which are not influenced by the magnet.

A considerable increase in the class of injuries resulting in the penetration of pieces of steel and iron, is due as Dr. S. C. Ayer's reports, to the inferior quality of steel used in the manufacture of cheap hammers.

The subject under consideration in this paper is: Which of the two methods of extraction shall we adopt, the Haab or the Hirshberg? By the Haab I mean the placing of the patient with the tip of the large magnet in front of the cornea and bringing the F. B. forward into the anterior chamber, or the extraction with a small magnet through a scleral incision.

The magnets in use at present are the different modifications of the hand magnet such as Hirshberg, and of the giant magnet of Prof. Haab. There is nothing in the make of these instruments which embody any new scientific principles different from those that have been known, and used for other purposes since the early days of the applications of electricity. The object being to obtain an instrument having the greatest number of lines of magnetic force within a certain compass.

In order to utilize the magnet to the best advantage, it is necessary to reduce the diameter of the anterior pole to a small size, so as to make the magnetic field of small dimension and concentrated at a tip, but in doing this we are sacrificing a large part of the magnet's power, as the amount of concentration on a tip is comparatively small and the magnetic lines of force

are in the same ratio as the cross-section of the tip is to the cross-section of the core.

The magnetic power diminishes inversely as the square of the distance from the pole, so that at the distance of four inches from the tip of the magnet, you have $1/16$ the magnet force you have at the pole.

I mention these principles of magnetism to emphasize the fact, that if you can get near to the point, say within less than $1/4$ the diameter of the eye, a magnet with $1/16$ the strength will have the same power as a large magnet with sixteen times the attractive force at the full distance of the eye.

At the Ophthalmic Hospital in Cincinnati, we have at our disposal a Haab magnet made by the Victor Company and a Hirshberg hand magnet. Either can be used with the street current or with storage batteries. In the last two or three years we have not used the large magnet, for the reason that in every respect our results have been so very satisfactory in the use of the small magnet through a scleral opening.

I made a number of experiments with the use of the large magnet in bringing small particles forward into the anterior chamber. In making the experiments, I used fresh pig's eyes, removed the upper section of the sclera, so as to enable me to watch the path taken by pieces of steel of different weights that I inserted in the posterior pole of the eye.

I found that the small particles of two and three milligrams were attracted forward, struck the posterior portion of the lens, slid around, then passing through the zonula reappeared in the anterior chamber, but when using larger particles, they not only showed laceration of the posterior capsule of the lens, but became entangled in some cases in the ciliary body or iris and in other cases managed after lacerating these structures to pass into the posterior chamber.

Since we have had the advantage of localizing with remarkable exactness by means of the X-ray, we are enabled to make our incision almost over or in the immediate neighborhood of the F. B., and in this manner can bring it under the most favorable conditions to be attracted by the magnet.

It is never advisable, unless the injury is only an hour or two old to make use of the wound of entrance. This is often jagged and irregular, and the path to it is greater than the more direct route, as determined by X-ray localization. Aside from the fact that the original wound soon becomes covered with plastic lymph and exudates, which had best be left alone rather than stir up and cause possible infection.

The objection usually raised against entering the vitreous with a magnet is the danger of infection, primarily, and secondarily detachment of the retina.

In our experience of twenty or more cases in the last three or four years, we have not had a single case of infection. This does not refer to the cases which showed infection from the F. B., previous to operation.

If we can rule out the danger of infection and possible detachment, what advantage is there in bringing the F. B. forward through the most delicate and vulnerable tissues of the eye, the ciliary body, iris and zonula, and in addition to this, it is necessary in order to remove the F. B. from the anterior chamber, to make a corneal incision with the possible excision of a piece of iris.

Prior to the X-ray localization, the sideroscope, a modification of D'Arsonval's galvanometer and the pain reaction when the magnet was applied to an eye containing a piece of iron or steel, were the only means aside from the fact of the traumatism, which were relied upon to give evidence of the presence of the F. B.

The sideroscope, when used in our offices or hospitals, surrounded as we are by heavy electric, street and house currents, and masses of iron, is unsatisfactory, because of the delicate character of the instrument, and makes the results obtained from it, either useless or erroneous, and if the particles should be nonmagnetic steel or soft iron, which it most frequently is, the result of the sideroscopic findings would be negative. The pain reaction was a sign that experience showed to be absolutely unreliable, if negative it was to be concluded that the F. B. was not present.

If the traumatism has not been excessive and there is no intraocular hemorrhage to obscure the media, we are often able to locate the F. B. by means of the ophthalmoscope.

As to the method of using the hand magnet with scleral incision, a general anaesthetic is advisable, the conjunctival sac is thoroughly irrigated by means of a normal salt solution. Nickel plated brass speculum and forceps should be used (the latter we have not as yet, but expect to have one made). The speculum we have been using for some time and is very satisfactory. Then having determined the point at which we desire to make our incision, the space between the muscles is utilized, there is no necessity of separating the muscles from their attachment to the eyeball, for even should the F. B. lie under the point of insertion or under the course of the muscle, an incision made on either side of the

muscle would be sufficiently near for all practical purposes.

A triangular conjunctival flap with its apex extending well forward to within three or four millimeters of the limbus is made, having a broad base extending if necessary to the transitional fold. This form of flap is preferable to a curved one, as a suture inserted at its apex is sufficient to hold the flap in the proper position.

The incision is then made at the nearest point possible to the location of the foreign body as previously determined. This may be made within a few millimeters of the posterior pole of the eye by rotating the eye with the fixation forceps. The incision is made parallel to the equator of the eye, thus cutting as few of the choroidal and retinal vessels as possible. It need not be made larger than sufficient to admit of the insertion of the largest tip of the magnet.

After cutting the sclera there will present a small bead of vitreous which shows no tendency to flow, if the vitreous be healthy. The magnet is then placed over the lips of the incision, the full force of the current turned on. In probably two-thirds of the cases this is sufficient to dislodge the metallic piece, sometimes however on account of exudates being thrown around the F. B., it may necessitate the introduction of the tip still farther into the vitreous, or if the Haab magnet is at hand, by careful manipulation the greater force may be applied to the wound. There is, however, some danger in using the large magnet with the patient lying horizontal and the magnet placed over the patient's eye. Any slip of the mechanism might drop the enormous weight of the magnet in the patient's eye. This may be obviated by placing the head side ways and approaching the eye from the side.

After the F. B. has been extracted, the wound is flushed with a sterile salt solution, no stitch is placed in the sclera, the conjunctival flap is stitched in place, a firm bandage is applied, and the patient kept quiet in bed for several days. The eye should be examined and bandaged daily. Atropine sol. is instilled to keep the ciliary muscle under control. I wish to report the following three cases, which I have had in the last two years:

CASE I.

February 18, 1906. E. D., while employed at the Connersville Blower Co., Connersville, Ind., was cutting a rivet, when a piece flew up entering his left eye, passing through the outer portion of the cornea, leaving a small perforation in the iris, the lens was slightly hazy on the side of perforation. Patient presented himself ten

days after injury. The media were clear with the exception of the slight haziness of the lens. Ophthalmoscopic examination showed a metallic substance short distance above disk.

Took field of vision, which as chart will show, was very much contracted, vision was 20/50. Five X-ray exposures were negative. Decided to operate notwithstanding, made the operation as described and immediately on placing the tip of the magnet in the scleral opening, a distinct click was heard and the small foreign body was removed. After three days I carefully examined fundus, the piece of metal had disappeared from above the disk, and there was no evidence of even hemorrhage around the scleral opening. The several fields were taken to show that no injury had been done to the retina. The last field taken was June, 1906, four months after the injury, vision was 20/20. Field normal except for small scotoma corresponding to site of original injury.

I received word from him in April of this year and he reports his eye is as good as the other one, two years and two months after injury.

CASE II.

December, 1906. F. A., employed at the Pfau Manufacturing Company, Cincinnati, while hammering on a chisel received a splinter at the temporal border of the cornea, which penetrated the iris and entered the vitreous. Though the media were clear, I was not able to locate the same with the ophthalmoscope. I saw him about an hour after the injury. A small hemorrhage occurred a few millimeters behind the equator of the eye. X-ray picture was taken, which located the foreign body behind point at which was the hemorrhage. His vision was reduced to about 20/70. I operated that afternoon and removed the F. B. Three weeks after, the hemorrhage had entirely absorbed.

Field normal, except for small scotoma at site of location of F. B. Vision 20/20. Saw him again six months later, June, 1907, with conditions unchanged. He reported to me April 15, 1908, and found his vision and the condition of his eye normal.

CASE III.

August, 1907. J. K., of Newport, Ky., employed in machine shop, while using lathe was struck in the eye by fragment, which penetrated left eye, entered the nasal side of sclera about five mm. from ciliary body.

Saw patient twenty-four hours after injury. Wound of entrance jagged and covered with

ecchymosis. Extensive hemorrhages in vitreous and anterior chamber, completely obscured fundus, tension minus.

The question was, if possible, to save the eyeball. X-ray showed presence of F. B. 5 mm. x 3mm, lying in bottom of eyeball. I made the usual operation and removed a large piece of metal.

Healing went along without any inflammatory symptoms. The blood clot in vitreous did not absorb for six weeks, cicatricial changes occurred around the wound of entrance affecting the adjacent ciliary body, which gradually contracted, drawing in with it iris and lens, the latter becoming dislocated, otherwise no inflammatory symptoms or evidence of cyclitis.

About four months after injury he was struck in the eye by one of his fellow workers, causing new hemorrhages and as there was some irritative symptoms in the other eye, I decided to enucleate.

If it had not been for this last accident, I am confident he would have retained an eye, which though sightless, was infinitely better than an artificial eye.

DISCUSSION.

D. W. Green, Dayton: I recall a couple of cases of foreign body in the eye in my own experience that have some unique features that will bear repeating. A few years ago I made an iridectomy for glaucoma in a laboring man, who had no history of an eye injury. Of course, I did not suspect any eye injury and didn't ask. In making the iridectomy I felt something in the grasp of the forceps when I caught the iris. After making the iridectomy I took the portion of the iris removed and tested with a magnet, and found a piece of steel the size of a pin-head imbedded in its substance. He didn't know he had a foreign body in the eye and careful inquiry failed to elicit any history of injury, but it had entered the globe without his knowledge. In another case the man was struck just at the sclero-corneal junction. Above I could not find a foreign body. The lens was clear and the media were clear. Whenever he approached the magnet he would suffer great pain. That went along until considerable inflammation followed in the eye and I afterward enucleated it. I have it in my collection at home. The foreign body lies just above the optic nerve at the posterior pole of the eye, and if it had not been for infection along the track of the wound through the vitreum, it would not have done any harm at its new location.

D. T. Vail, Cincinnati: There is probably no chapter in ophthalmology which of recent years has occupied so important a place as this very chapter, namely, the extraction of foreign bodies of this character from the interior of the eye. Before the days of the electro-magnet, these eyes went on to destruction. Foreign bodies which

penetrate the eye set up in the course of time more or less inflammation, which ultimately, sooner or later, results in the destruction of the globe and in some instances the sad sequella, sympathetic ophthalmia, supervenes. So we owe a debt of gratitude to Professor Haab and others for bringing before us the means by which we can cope with these cases and approach them, not with the feeling of anxiety and dread that we formerly had, but with a feeling of confidence that we will in many cases shortly succeed in relieving the patient of his trouble and send him away with a more or less good result.

I could not in the short time allotted for discussion go into this matter as fully as I would wish. In general I would say that we have to deal with about three kinds of injuries of this character. First, those in which the foreign body simply penetrates the anterior segment of the globe—the front envelope of the globe—and lies in the front or forward portion of the eyeball. Second, where the metallic substance lies within the vitreous chamber, and third, where it has passed through the eyeball and lies somewhere within the orbit. Sometimes the piece of metal is very small and of just sufficient momentum to pass arrow-like through the cornea and lodge just within the anterior chamber. A case of this kind once came to my office. A man working at his trade felt a sting in his eye, but suffering no special annoyance, went on with his work. One of his fellow-workmen said to him afterward when discussing the matter, "There is a funny looking glittering thing in your eye now." This led him to call at the office of the company's physician. In the front of the eye was a glittering speck of metal which lay like a spangle on the surface of the iris midway between the pupil and the margin. The physician thought it was on the cornea and tried to extract it. He soon found his error and referred the case to me. This small disk of metal was easily extracted by a keratome operation. The magnet drew the body from the chamber and he made a complete and perfect recovery.

Recently also a case came to me in which the body penetrated near the sclero-corneal junction and located in the root of the iris. Careful examination did not reveal anything in the vitreous. The eye was not tender to touch and not much insult was caused by the injury; but the application of the magnet at the point of entrance gave a positive return; that is, the patient felt pain on the application of the magnet. On making an independent opening close to the point of entrance, we extracted a very minute piece of iron, smaller than any shown here this afternoon.

There is still another type. I recall a case where the body penetrated the cornea, passed through the lens capsule and lay within the body of the crystalline lens, as was proved afterward. The magnet was applied, but no reaction elicited. The patient being past middle life, operation for the removal of the cataract was advised and done. On extraction of the lens, we found the foreign body buried in the nucleus.

These three represent the types which we find in foreign bodies in the forward part of the eye; foreign body in the anterior chamber, foreign body in the iris or ciliary body, and foreign body in the crystalline lens.

Lack of time does not permit me to discourse on the types where the iron body lies within the vitreous or orbit, or to mention some points pertaining to their management.

C. S. Means: I wish to ask the doctor a question concerning some of the cases that I have treated.

It has not been my lot to have a great many of these cases in my private practice. About twelve years ago, when I first began, I removed a small piece of steel from the vitreous chamber by the aid of a Hershberg magnet. The eye recovered completely with 20/20 vision. After twelve years he recently came to me with a retino-choroiditis and his vision had decreased to 20/70.

Another one of the same character, not quite so long since the injury, is in the same condition. What I want to know is this the experience of the men who have had a great deal of this work that we can expect future trouble in these accident cases, or have I been simply unfortunate in having these cases under my care?

Victor Ray, Cincinnati (closing): I think there may have remained some portion of the foreign body extracted. When we have a foreign body removed we do not examine further. It might be advisable in such cases to make further x-ray exposures to find whether anything has been left behind, although I understand that that has been the experience of men in the east—either a detachment of the retina or a retino-choroiditis results.

C. S. Means: I reported these two cases particularly because of the time that has elapsed and the normal vision.

Victor Ray: The cases that Dr. Vail and Dr. Green report would emphasize one fact, that in all these cases we should make an x-ray examination. I am satisfied that if that had been done in these cases the foreign body which laid behind for so many years would have been shown by the x-ray picture, and the piece of metal which Dr. Vail mentioned as having penetrated the lens would have been seen. I had a case of a piece of glass that penetrated the lens and remained there and caused a traumatic cataract—quite a large piece. I neglected to have an x-ray picture taken. However, as the irritation continued I carefully examined and found a little metallic reflexion in the anterior portion of the lens, and decided there must be a foreign body present. I went in with a scoop and used a cataract loop and was able to extract quite a large piece of glass, as large as the piece of metal I showed you today. The result was very satisfactory and the patient recovered with very satisfactory vision, with proper lenses.

The Ohio State Medical Journal

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THE CINCINNATI MEETING.

The sixty-fourth annual meeting of our State Association is at hand. Cincinnati has been making great preparations for this event and has provided for a large attendance. Special invitations to all members of the Association have been sent out, and also through THE JOURNAL the Cincinnati Academy urges the members to come to this meeting on the fifth, sixth and seventh of this month, and assures every one of a thoroughly profitable and enjoyable sojourn.

Every physician knows the value of a little change of scene and diversion; every one urges it upon his patients frequently. Now take the same advice; drop work for three days, get out of the rut, hear some excellent papers, get some new ideas, and you will return home well satisfied that your trip has paid.

Every member of the medical profession owes it to the State Association to attend these meetings, and show his interest in the plans for progress which are being developed. There are many serious problems which confront us in these days, and many many of them can only be solved by complete co-operation, and unanimity of action.

We owe it to the essayists who appear on

the program, printed elsewhere in THE JOURNAL, to have a good attendance. Note the unusually high character of the papers to be read and see if you can afford to stay away.

The distinguished guests who will address the general meetings are certain to provide much of interest and profit.

Come then and invite your neighbors, especially if they are not members; once let them attend, and they will surely want to be one of us.

Cincinnati has done her part most generously; let us show our appreciation and interest by a large and enthusiastic attendance.

PATENT MEDICINES AGAIN.

Present indications in regard to patent medicines remind one of the fable of the scotched snake. Thinking perhaps that the public has wearied or forgotten about the revelations brought out a few years ago, and that the time is now ripe for a renewal of their efforts to befool the public as in the "good old days," the patent medicine people are becoming aggressive. Some have boldly resumed the same old "ads" which though venerable with age, still seem potent to be-

guile the ignorant and unwary to their own undoing. One enterprising firm, which has had several imitators, publishes a fake prescription which calls for several ordinary ingredients and one compound substance (which rhymes with jargon, and probably means as much) that is purely a "patent" medicine. Another publishes a "fashion" paper, distributing it broadcast and filled incidentally with a few dress and embroidery patterns, etc., but mainly with testimonials of special interest to women. Combination offers are made of patterns and mixtures, particularly enticing to the alleged bargain-loving instinct of the fair sex.

Many other firms have changed their preparations somewhat to meet the new conditions, but the whole general plan is the same.

A collective attack on anti-patent medicine agitations is made in a pamphlet published anonymously, but presumably under the auspices of the proprietary medicine association, or whatever the unholy alliance is called. It contains a lot of familiar misstatements, and an amusing and rather belated reply to Collier's charges; the feebleness of the refutations is only equalled by the calm audacity with which the writer exclaims after each, "Thus we nail lie No. —."

Then there is an article by the greatest American poseur, Elbert Hubbard, on the "Doctors' Trust," which is on a par with his productions of later years, and which seem to indicate approaching senility. Being put on the shelf is a painful process; it is hard to realize when one is *passé*, and naturally one rails at everything under such circumstances.

Of course such a brief for the defense of the unjustly accused patent medicines would not be complete without a line from Peruna, and an editorial from the Columbus Medical Journal (*O tempora, O mores!*) proves to the writer's satisfaction at least

that patent medicines ought to and will stand.

A much more insidious scheme, however, has been hatched, and one against which the medical profession should be warned, lest it deceive the very elect. A certain private medical journal, which exists apparently mainly for advertising directly and indirectly quasi patent medicines, and which therefore must have as large a circulation as possible, seeks at the same time to assume an air of respectability by securing medical papers from reputable men. The editor solicits original articles, or permission to reprint or abstract paper already published, and in exchange offers subscriptions to his valuable (?) magazine for two or three years; the author to have the option of the whole time himself, or to take the journal for one year and present two friends with a yearly subscription each; or he may have it sent to twelve friends for three months; or take it himself one year, and send it to eight friends for three months, etc., etc. It is all a plan to secure a larger circulation, without a real bona fide cash subscription and seems to us a part of the proprietary medicine plan.

EDITORIAL NOTES

MILK EXHIBIT DURING CINCINNATI MEETING.

During the meeting of the State Association there will be held a milk and dairy institute which will be of great interest to the members. The scientific part of the exhibit will be held on Fourth street, right opposite the Sinton Hotel, headquarters of the State Association, and this announcement should be kept in mind so that as many as possible may seize this opportunity to witness what is being done for the solution of the difficulties of the pure milk problem. A large attendance of physicians will give added publicity to the exhibit and do a great deal to stimulate interest in a general pure milk crusade throughout the state.

These milk shows have been held in four or five of the large cities of the country and have aroused great interest in each one of them. It is

a matter of fact that physicians as a whole, while interested in clean milk in a general way, have not taken the opportunity of becoming especially informed about the question. As a part of this milk exhibit it is proposed to show the actual testing of milk, cooking, etc., as well as the plating of the milk and the counting of the bacteria.

The dairy department at Washington, the Ohio State University Dairy Department, and the local physicians will combine to make this a complete exhibit. It is to be held in the old quarters of the Fifth National Bank, Fourth and Vine streets, which, as said, are across the street from the Hotel Sinton.

The dairy institute is to be held at 121 West Fourth street, and will comprise a series of lectures extending over two days, directed chiefly to the producer. The evening of the sixth of May will be given up to a series of addresses directed to the consumer. Governor Harmon will be one of the speakers.

In connection with the milk show, the government will supervise a milk and cream contest in which the dairymen of Ohio, Indiana and Kentucky will be invited to participate. It is likewise proposed that a "CERTIFIED" milk contest in which all of the producers of "CERTIFIED" milk in the country will be invited to take part.

It has been the experience of other cities that a great improvement of the milk supply follows these milk shows. Publicity is the great factor in the success of these affairs and by stimulating

the interest of the physicians throughout the state to attend these meetings it will greatly benefit their respective communities.

The above Institute and Milk Exhibit will be held under the auspices of the Ohio Dairymen's Association, the Business Men's Club, the Chamber of Commerce, and the Milk Commission of the Academy of Medicine.

JOIN THE A. M. A.

The meeting at Atlantic City promises to be a very notable event. Crowds are going from all parts of the country.

If you are going, join now and send us your application. It will be much pleasanter and save you much trouble to join before the meeting, and incidentally, it will benefit this journal.

If you are not going, join anyway. The A. M. A. stands for the medical profession; it is fighting our battles and working for the advance of true scientific medicine. If you do not approve of some of the policies at present followed, all the more reason to join and work to change them. Possibly a closer study may show you the wisdom of these, but anyway much more can be done than by remaining outside.

As the old politician said to the neophyte, "if you must try to reform the party, do it from within, never from the outside!"

Cut out the application to be found in the advertising pages, fill in the blanks and mail to this office.

THE CINCINNATI MEETING

Although it is eight years since the Association met in Cincinnati, those members who attended that year well remember the openhearted hospitality and cordial welcome extended, and the large majority, we are confident, will make every effort to repeat a visit so thoroughly enjoyed.

If that meeting was a success, this one ought surely to be even more so. The committee of arrangements has spared no pains to provide for the comfort, convenience and pleasure of the members of the Association, and with its accessibility and the attractiveness of this opportunity to see Cincinnati there ought to be an unusually large attendance.

The Queen City, aside from the medical part of the question, should draw largely upon the interest of a great many of our members. It is one of the most important manufacturing centers of the middle West, and those not familiar with this side of this city might well spend a little time in visiting some of its really unusual mercantile in-

stitutions. Among these may be mentioned the Rookwood pottery, and the Ivory soap factory as especially well known, but besides these there are many of the largest and best equipped factories in this country.

Among other objects of interest are the Art Museum, containing a very valuable collection and well worth a visit; the College of Music; the Cincinnati University; the Zoological Gardens, one of the finest in the country; the Ohio river, with its marine docks and lofty bridges; Eden Park, with its beautiful view of the river, Fort Thomas, a military post, etc.

The numerous hospitals, the Cincinnati Hospital, the Good Samaritan, Christ Hospital, German Deaconess, St. Mary's, St. Francis, Bethesda and the Jewish and Longview Hospitals certainly invite inspection.

To alumni of the Cincinnati schools this meeting offers delightful opportunities to revisit the old scenes, rich with pleasant reminiscences,

meet old teachers and renew one's youth generally.

Cincinnati at night is in itself a sight well worth going far to see. Electric lights without number simply banish darkness. Enormous shop buildings vie with each other in electrical displays. Not only do the signs and show windows twinkle and glow, but in many instances the whole front and sides are outlined in a blaze of light.

HALLS.

The headquarters and meeting places for the sections, House of Delegates, general meetings, smoker and banquet are all arranged for in the magnificent new Hotel Sinton, located at Fourth and Vine streets. This will be found to be exceedingly convenient. No matter whether the weather be good or bad, one need not venture out of the hotel; no time will be lost in going to and from the meetings, and the one central headquarters brings everyone within reach.

The meeting places will be found to be very well adapted for the various sections and not only comfortable, but luxurious. The accommodations in the Hotel Sinton are in keeping with a hotel with the rapidly acquired reputation of the best in the middle West.

Other hotels will be found in the near vicinity if the Sinton is too crowded to accommodate all desiring to stop there.

SPECIAL ADDRESSES.

There will be several distinguished guests of the Association this year. Dr. Bertram W. Sippy, of Chicago, will deliver the address on medicine, and from his reputation we may look forward to this event with a great deal of pleasure.

The address in surgery will be given by Dr. H. S. Plummer, of Rochester, Minn. Dr. Plummer is an associate of the Mayos, and his address will doubtless present some of the remarkable new and original work being done in that center of surgical work.

Dr. Samuel G. Gant, of New York City, will be a great attraction to proctologists and indeed to many general surgeons and general practitioners as well.

Dr. Bransford Lewis, of St. Louis, will also draw the attention of many others, but will, of course, be especially interesting to the genito-urinary surgeons on account of his reputation along that line of work. He is said to be an excellent speaker, and his address will be sure to be full of practical and suggestive ideas.

Dr. Frank Allport, of Chicago, will address the Eye, Ear, Nose and Throat Section and will un-

questionably bring out much of interest and profit.

Dr. O. P. Geier, of Cincinnati, will give an illustrated stereopticon lecture on certified milk to the Obstetric and Pediatric Section, which will be of especial interest just now when so much is being advocated in the way of improving our milk supplies.

Dr. W. L. Moss, of Johns Hopkins, will also address the Medical Section on iso-agglutinins and give some of the most recent developments in this line as brought out by his research work in the laboratories of Europe.

SMOKER

A smoker will be given the members of the Association by the local profession on Wednesday evening. This will be a delightful and informal function, at which every member from out of town will be made to feel that he is being personally the guest of his colleagues of Cincinnati.

THE ANNUAL BANQUET

This affair will be given at the Sinton, which means that it will be of the very highest class. It will be an important part of the social program, and all should make an effort to be present. It will aid the committee very greatly in providing the proper seating accommodations, and also the hotel management in arranging for service, if the tickets are bought promptly. Therefore, come prepared and determined to go to the banquet and buy your ticket as soon after your arrival as possible.

SPECIAL EXHIBIT

Do not fail to visit the milk exhibit. This very interesting exhibit will be open, and it will be greatly to your advantage to see what is being done along these lines.

THE SIXTY-FOURTH ANNUAL MEETING of the

OHIO STATE MEDICAL ASSOCIATION

May 5, 6, 7, 1909, at Cincinnati.

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FINANCES

J. A. THOMPSON, M. D., *Chairman*

M. A. Tate, M. D.	A. Friedlander, M. D.
Dudley Webb, M. D.	D. J. Davies, M. D.
A. R. Walker, M. D.	C. J. Cristler, M. D.
C. C. Agin, M. D.	M. B. Brady, M. D.
K. F. Little, M. D.	F. E. Kugler, M. D.
A. L. Knight, M. D.	E. M. Craig, M. D.

ENTERTAINMENT

G. A. FACKLER, M. D., *Chairman*

F. W. Langdon, M. D.	J. M. Withrow, M. D.
E. W. Mitchell, M. D.	Amb. Johnston, M. D.
J. E. Greiwe, M. D.	D. T. Vail, M. D.
A. I. Carson, M. D.	L. Schwab, M. D.
Otto P. Geier, M. D.	

REGISTRATION

C. B. CONWELL, M. D., *Chairman*

G. H. Baker, M. D.	Samuel Iglaucr, M. D.
L. E. Cook, M. D.	Frank Lamb, M. D.
C. F. Hegner, M. D.	

STEERING

ALLAN RAMSEY, M. D., *Chairman*

A. J. Bell, M. D.	A. J. Markley, M. D.
H. H. Hines, M. D.	Sidney Lange, M. D.
W. E. Murphy, M. D.	J. A. Caldwell, M. D.

RAILROAD RATES

From all points in Ohio, 2 cents per mile.

REGISTRATION

Each member in attendance shall enter his name on a registration card, indicating the component society of which he is a member. When his right to membership has been verified, he shall receive a badge, which shall be evidence of his right to all the privileges of this session. No member or delegate shall take part in any of the proceedings of this session until he has complied with these provisions. Only bona fide members will be admitted to entertainments.

PAPERS

No address or paper before the Association, except those of the president and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor, except by unanimous consent, more than once on any subject.

All papers read before the Association shall be its property. Each paper shall be deposited with the secretary when read, and if this is not done it shall not be published.

PLACE OF MEETING—HEADQUARTERS

All sessions, the general meetings, the various sections, the House of Delegates, Auxiliary Committee and exhibits will be held in the Hotel Sinton. Fourth and Vine streets.

The registration and secretary's office will also be in the foyer of the Hotel Sinton. The registration office will be open daily from 9 a. m. to 12 noon and from 1 p. m. to 5 p. m. The secretary's office will be open at noon daily for one hour.

PROGRAM

Wednesday, May 5. 9:30 a. m.

GENERAL SESSION

Call to order.
Address of welcome—
John Galvin, Vice Mayor.
Address of the President—
D. R. Silver, M. D., Sidney.

MEETING OF THE HOUSE OF DELEGATES

Call to order at 10:30 a. m.
Miscellaneous business.
Nomination and election of nominating committee.

Reports of officers—

Treasurer.
Secretary.

Reports of committees—

- (1) Public Policy and Legislation.
J. W. Clemmer, M. D., Chairman.
- (2) Publication.
J. H. I. Upham, M. D., Chairman.
- (3) National Legislation.
B. R. McClellan, M. D., Chairman.

Wednesday, 1:30 p. m.

SECTION MEETINGS

(See Section program)

Wednesday, 7 p. m.

MEETING OF THE HOUSE OF DELEGATES

Call to order at 7 p. m.
Reports of councilors.
Amendments to the Constitution.
Miscellaneous business.

Wednesday, 8 p. m.

SECTION ON OBSTETRICS AND PEDIATRICS

Special address, "The Province of the Medical Milk Commission"—
O. P. Geier, M. D., Cincinnati.

SECTION ON MENTAL AND NERVOUS DISEASES

Special address, "The Medico-Legal Expert"—
Curran Pope, M. D., Louisville.

Wednesday, 7:30 p. m.

SECTION ON DERMATOLOGY, PROCTOLOGY AND GENITO-URINARY DISEASES

Special address—
S. G. Gant, M. D., New York.
(See Section program)

Wednesday, 9 p. m.

SMOKER

Thursday, May 6. 9 a. m.

SECTION MEETINGS

(See Section program)

Thursday, 1:30 p. m.**MEETING OF THE HOUSE OF DELEGATES**

Call to order.

Report of nominating committee and election of officers and committees.

Selection of date and place of next meeting.

Miscellaneous business.

Thursday, 2:30 p. m.**GENERAL MEETING****ADDRESS IN MEDICINE**

"When Should Gastric Ulcer be Treated Surgically; When Medically"—

Bertram W. Sippy, M. D., Chicago, Ill.

ADDRESS IN SURGERY

"Report of Fifty Cases of Cardiospasm"—

H. S. Plummer, M. D., Rochester, Minn.

ADDRESS IN GENITO-URINARY SURGERY

"Diagnostic Pitfalls in Urinary Affections"—

Bransford Lewis, M. D., St. Louis, Mo.

Thursday, 8:30 p. m.

Annual banquet, Hotel Sinton.

Friday Morning, May 7, 9 a. m.**SECTION MEETINGS**

(See Section program)

SECTION MEETINGS**Wednesday, 1:30 p. m.****MEDICAL SECTION**

(1) "Mind and Medicine: Views of a General Practitioner"—

J. S. Rardin, M. D., Portsmouth.

Discussion—J. W. Clemmer, M. D., Columbus.

(2) "The Significance of Pain"—

George M. Waters, M. D., Columbus.

Discussion—John J. Moore, M. D., South Charleston.

(3) "The von Pirquet, von Detre and Moro Methods in the Use of Tuberculin"—

A. Melville Crane, M. D., Marion.

Abstract: Brief history of inoculation for diagnosis: Koch's method and its dangers; the von Pirquet, von Detre and the Moro methods. The technic of the latter method and the tuberculins used. The reactions, positive and negative. Sensitiveness to the different tuberculins, as indicative of the type of infection. The translation of the cutaneous picture determines the specific line of treatment. Diagnostic value. Negative reaction and reinoculation. Personal observations and experiences.

Discussion—Ralph Daniells, M. D., Toledo.

(4) "Metchnikoff's Theory of Immunity"—

L. W. Ladd, M. D., Cleveland (thirty minutes).

Discussion—L. C. Grosh, M. D., Toledo.

(5) "The Hygienic Aspect of the Ohio River Water Supply Incident to Slack Water Navigation"—

S. O. Barkhurst, M. D., Steubenville (fifteen minutes).

Abstract: The Ohio river watershed "a thousand miles of river and a thousand miles of typhoid." It is in truth a thousand miles of open sewer, and the completion of the proposed government dams will convert it into a thousand miles of open cesspools. There occurred in the city of Pittsburg during five years from 1904 to 1908, inclusive, 18,144 cases of typhoid fever, with 2138 deaths. The year 1908, including all of greater Pittsburg, translated into the coin of the realm, it cost the city more than \$18,000,000 a year. There will be an influx of population and consequently increased pollution of the river water. If the present conditions prevail, with no provisions for the conservation of the public health, the cry of today, "On to Cairo!" will be re-echoed tomorrow in the wails of the widows and orphans.

Discussion—J. S. McClellan, M. D., Bellaire.

(6) "Multiple Myeloma, with a Report of Two Cases"—

G. F. Zininger, M. D., Canton.

Abstract: Clinical history and autopsy briefs of reported cases. The comparative rarity of the disease, though increasing numbers of cases reported since the more general recognition of the affection, both clinically and pathologically. In the present state of our knowledge, our inability to classify this disease as to whether the growths are true neoplasms or whether they belong to the granulomata. The gross description of the appearance of the tumors and the histo-pathology and histo-genesis of the cell composing the tumor. The consideration of the bearing of the blood findings. The presence of albumose in the urine and its value as a diagnostic sign. Conclusions.

Discussion—J. J. Coons, M. D., Columbus.

(7) "The Genesis of the Non-infectious Chronic Diseases of Middle and Later Life from Early Microbic Infection"—

J. B. Ballenger, M. D., Bradford (fifteen minutes).

Abstract: Microbic and parasitic infection the predominant cause of disease. Microbic infections, especially of intestinal tract, probably related indirectly to various forms of chronic disease and therefore to longevity. Evidence that the early infections of the alimentary canal are permanent; that the ileo-colitis of children is usually succeeded by chronic colitis and constipation, complete recovery from which seldom occurs; that colitis and constipation favor intestinal fermentation and putrefaction and contribute to their permanency. The absorption of the products of fermentation and putrefaction produce various chronic toxemias, which have a selective action on various organs and tissues, but especially on the nervous system. They also cause various chemical changes in the blood and disturbances of metabolism, which in time produce changes from which develop many of our most common chronic diseases.

Discussion—T. W. Rankin, M. D., Columbus.

Thursday, 9 a. m.

(1) "Some Aspects of Angina Pectoris"—
(Report of cases.)

Frank Winders, M. D., Columbus.

Discussion—John E. Greiwe, Cincinnati.

(2) "Heart Tones and Heart Murmurs"—
(Lantern illustrations.)

John E. Greiwe, M. D., Cincinnati.

Abstract: Physiology of heart cycle method closure valves. Cause of murmurs and their diagnostic significance. Illustrated by complete stereoscopic set of pathologic hearts.

Discussion—F. Forchheimer, M. D., Cincinnati.

(3) "Bacterial Therapy: Its Application and Limitation"—

W. J. Stone, M. D., Toledo.

Abstract: Staphylococcus, streptococcus, gonococcus, tubercle, colon and pneumococcus infections. Anti-typoid inoculations. Acute and chronic infections. The role of secondary organisms. The presence of foreign bodies, such as necrotic bone. Interference with a normal supply of blood and tissue lymph to an infected area through the formation of "pyogenic membrane" and granulation tissue low in vitality. The damage done to infected areas by antiseptic irrigations. Auto-inoculations in tuberculosis and necessity of opsonic index in some cases. Polyvalent and univalent vaccines. Homologous and heterologous vaccines. Methods of preparation and potency when killed by heat or chemical agents. Methods of preservation. Duration of potency. Other means of increasing bacterial resistance. Report of cases. Conclusions.

Discussion—Marion Whitacre, M. D., Cincinnati.

(4) Special address by invitation. "Studies on Isoagglutinins and Isohemolysins"—

W. L. Moss, M. D., Johns Hopkins University, Baltimore (thirty minutes).

Abstract: Definition. Multiplicity and classification of isoagglutinins. Multiplicity of isohemolysins. Normal anti-isohemolysins. Practical aspect of the subject.

(5) "Report of a Case of Hodgkin's Disease, with Recurrent Fever: Review of Literature"—

John Phillips, M. D., Cleveland.

Abstract: The case to be reported was admitted to Lakeside Hospital because of swelling of cervical glands. Some of the glands were removed and microscopical changes found described by Reed and Longcope as characteristic of this disease. Under treatment with arsenic, the remaining glands became smaller and the patient was discharged. Readmitted one year later with marked enlargement of glands in his neck and axillae. Under treatment with arsenic they again nearly disappeared. Admitted again with the enlargement of all the superficial glands and evidences of compression from enlargement of the retro-peritoneal group. The unusual condition noted both in his record and third admission to the hospital was the alternating of periods of pyrexia and apyrexia. Autopsy report. Review of the literature of cases showing this type of temperature.

6. "Diagnostic Interpretation of Enlargement of the Liver"—

Henry Wald Bettman, M. D., Cincinnati.
(Fifteen minutes)

Discussion—Geo. A. Fackler, M. D., Cincinnati.

7. "The Vaso Dilator Drugs and Indications for their Use"—

W. J. Conklin, M. D., Dayton.

Discussion—D. O. Weeks, M. D., Marion.

Friday, 9 A. M.

1. "The Diagnosis and Treatment of Ectopic Gestation"—

Hunter Robb, M. D., Cleveland.

(Abstract)

Main points in differential diagnosis. The general practitioner should call in a surgeon to share the responsibility as soon as the diagnosis is made. Outline of treatment when a competent gynecologist is not at hand. Dangers of immediate operation by one not skilled in abdominal work. Cases that bear upon the question of the immediate or later operation, where shock is present as the result of hemorrhage.

2. "The X-Ray Examination of the Stomach and Colon"—

Sidney Lange, M. D., Cincinnati.

(Twenty minutes)

Discussion—C. F. Bowen, M. D., Columbus.

3. "Some Clinical Aspects of visceral Arterio-Sclerosis"—

J. Henry Schroeder, M. D., Cincinnati.

(Abstract)

The peripheral blood vessels do not always indicate the condition of the vessels supplying the viscera. In angina pectoris and aortic disease, symptoms other than cardiac may be the earliest symptoms. Arterio-sclerosis of the stomach.

Angina abdominalis.

Clinical importance—Cases.

Discussion—Henry Wald Bettman, M. D., Cincinnati.

4. "The Role of the Myocardium in Chronic Valvular Diseases of the Heart"—

G. A. Fackler, M. D., Cincinnati.

(Twenty minutes)

Discussion—L. A. Levison, Toledo.

5. "The Binding of the Complement in the Diagnosis and Treatment of Syphilis, and Report of Cases"—

Chas. W. McGavran, M. D., Columbus.

(Abstract)

Wasserman's experiments on monkeys demonstrating development of syphilitic antibodies.

Further experiments showing the finding of syphilitic antibodies in the serum of syphilitic men. The binding of the complement. The making of the extract, the testing of its strength and substitutes. The serum of suspected patient inactivated by heat. The complement which is the active fresh serum of a guinea pig.

The hemolysin or an amboceptor of definite known strength, which is the inactive serum of a rabbit which has been previously injected with an antigen of definite known strength, the washed red blood corpuscles of a sheep. Method of testing strength of hemolysin. Allergie. The danger of killing rabbit by repeated injections of sheep corpuscles.

The necessity of serum from positive and negative cases as well as from the suspect in making each reaction. Other controls necessary in each case.

Protocol for making reaction.

Percentages in different stages with and without symptoms responding to the reaction.

Report of cases.

Discussion—Ernest Scott, M. D., Columbus.

6. "The Need of Better Provisions in Ohio for the Care and Treatment of Acute Mental Diseases"—

H. H. Drysdale, M. D., Cleveland.

(Eighteen minutes)

(Abstract)

The status of the insane from the time of Pinel. The existing defects in the care of those suffering from acute mind diseases—the organization of a psychopathic ward connected with general hospitals—for the scientific observation and early treatment of curable mental conditions. The importance of having a ward of this character accessible to medical colleges.

Discussion—K. S. West, M. D., Cleveland.

SURGICAL AND GYNECOLOGICAL SECTION

Wednesday, 2 p. m.

"The Value of the Leucocyte Count in Appendicitis"—

Fred Fletcher, M. D., Columbus.

Discussion—Ralph P. Daniells, M. D., Toledo.

"How Shall We Treat Infantile Clubfoot?"—

H. Freiberg, M. D., Cincinnati.

Abstract: Experience has shown that mere retention in a corrected position will not cure clubfoot. It is essential that the foot should bear the weight of the body while held thus corrected in order that those transformations may take place which are necessary before we may speak of a cure. It is proposed, therefore, that such retentive means as plaster of paris shall not be used until the time for walking is imminent. Until this time has arrived, simple retentive appliances had better be used, such as may be removed daily by the mother. Description of the method and of cases which have been treated in this way.

Discussion—Henry O. Feiss, M. D., Cleveland.

"Mental Disturbances Arising from Disease of Pelvic Organs"—

W. H. Humiston, M. D., Cleveland.

Discussion—F. D. Barker, M. D., Dayton.

"The Professional Anesthetist"—

Myron Metzenbaum, M. D., Cleveland.

Abstract: The lack of teaching anesthetic technique at the medical colleges and hospitals. The relation of operator and anesthetist. Vital importance of the anesthetic. The administration of an anesthetic a distinctive specialty. The mutual benefit to patient and surgeon and greater safety to patient attained by having the professional anesthetist administer the anesthetic.

Discussion—R. A. Rice, M. D., Columbus.

"Some of the Remote Effects of Shock and Concussion"—

Frank Warner, M. D., Columbus.

Abstract: A discussion of the neuroses which are alleged to be so frequently a result of falls and blows. Simulation of those troubles, tumors of the brain, abscess of the brain, epilepsy and inflammatory and degenerative troubles of the cord insofar as shock and concussion may stand as positive factors.

Discussion—C. B. Parker, M. D., Cleveland.

"A Comparative Clinical Report in the Treatment of Hypertrophy of the Prostate Gland"—

Wm. E. Lower, M. D., Cleveland.

Discussion—J. F. Baldwin, M. D., Columbus.

Thursday, 9 a. m.

"The Radical Operation for Cancer of the Uterus"—

Julius H. Jacobson, M. D., Toledo.

Abstract: History and evolution of the radical operation. The Wertheim technique; its high primary mortality, formerly the result of shock due to prolonged anesthesia, rough manipulation on account of inaccessibility of parts, hemorrhage and exposure of viscera. Spinal anesthesia; Bumm's modified technique, and transverse incision for combating shock and reducing operative mortality. Results. Author's technique. Post-operative X-ray treatment. Case reports.

Discussion—Chas. L. Bonifield, M. D., Cincinnati.

"On the Factor of Safety in Abdominal Operations"—

George W. Crile, M. D., Cleveland.

Discussion—Rufus B. Hall, M. D., Cincinnati.

"Chronic Pancreatitis"—

C. M. Smith, M. D., Toledo.

Discussion—Frank E. Bunts, M. D., Cleveland.

"Hernia"—

W. D. Hamilton, M. D., Columbus.

Discussion—Geo. Goodhue, M. D., Dayton.

"A New Method for Gastro-Enterostomy"—

Ed. A. Hamilton, M. D., Columbus.

Discussion—Edwin Ricketts, M. D., Cincinnati.

"Interilio-Abdominal Amputation, with Report of a Case"—

Joseph Ransohoff, M. D., Cincinnati.

Discussion—Geo. W. Crile, M. D., Cleveland.

Friday, 9 a. m.

"The Question of Operation in Fractures of the Base of the Skull"—

Frank E. Bunts, M. D., Cleveland.

Discussion—James Donnelly, M. D., Toledo.

"Surgery of Breast Cancer"—

Geo. M. Todd, M. D., Toledo.

Abstract: A study of the advance made in the pathology and surgery of mammary carcinoma. Differential diagnosis clinically not of great importance, as a high percentage of breast tumors are malignant. The results of early and more radical operations. The use of Roentgen ray and its effect following operation. Some important

features in the operation to prevent healing slowly and subsequent contraction of the scar, with some personal experiences.

Discussion—B. R. McClellan, M. D., Xenia.

"Traumatism of the Sacro-Iliac Joint and Sequelae of Same"—

Robert Carothers, M. D., Cincinnati.

Abstract: The loose sacro-iliac joint. The sprained sacro-iliac joint. The dislocated sacro-iliac joint, not infrequently called lumbago or sciatica.

"Absence of Vagina: Its Embryology, Pathogenesis and Treatment, with Report of Case"—

L. G. Bowers, M. D., Dayton.

Abstract: I. Introductory remarks. II. Embryology. (A) Wolffian body. (1) Wolffian duct; (2) transverse tubules (anterior, middle, posterior); (3) genital gland. (B) Mullerian duct. Embryological divisions: Superior, tubes; middle, uterus; inferior, vagina. (C) Cloaca, defined: (1) Anterior compartment—urethra and vestibule; (2) posterior compartment—rectum; (3) external genitalia.

III. Review. Classical cases, 25 in number. (a) Group 1—Absence of subjective symptoms. (b) Group 2—Subjective symptoms present. (c) Group 3—Summary, associated malformations.

IV. Pathogenesis. (a) Complete absence of vagina. (1) Anatomical; (2) physiological; (3) vestibulae vagina. (b) Associated malformations. (1) Absence of Hymen; (2) dilated urethra; (3) other anomalies.

V. Treatment.

Discussion—Rufus B. Hall, M. D., Cincinnati.

"A Complicated Case of Abdominal Pregnancy"—

Magnus A. Tate, M. D., Cincinnati.

Discussion—W. Gillette, M. D., Toledo.

"Some Phases of Sarcomata and Their Removal"—

James U. Barnhill, M. D., Columbus.

Abstract: Relation of growth to trauma and irritation. The former may be an exciting cause; the latter, whether toxic or mechanical, may hasten growth. Importance of early diagnosis. Education of the public by physicians in reference to the possible danger of the smallest tumors. Importance of thorough removal. Value of the X-ray treatment. Use of the Coley serum in inoperable cases. Report of cases.

Discussion—J. C. Oliver, M. D., Cincinnati.

EYE, EAR, NOSE AND THROAT SECTION

Wednesday, 2 p. m.

Chairman's address of welcome.

EYE

1. "Ocular Signs of Arterio Sclerosis"—

Wm. E. Bruner, M. D., Cleveland.

Abstract: The cardinal points of arterio sclerosis are outlined and special stress is laid upon the involvement of the small arteries and upon the importance of early diagnosis, if treatment is to accomplish anything. The importance of a study of the retinal vessels in ascertaining the

condition of the general arterial system is emphasized. Some of the ocular symptoms described: (1) Tortuosity of the retinal vessels; (2) irregularity in caliber of the retinal arteries; (3) "silver-wire" appearance of the retinal arteries; (4) loss of translucency in the vessels; (5) compression of the veins by the overlying arteries; (6) white lines along the vessels; (7) edema of the retina; (8) retinal hemorrhages; (9) thrombosis of the central vein or some of its branches; (10) obstruction of the central artery or some of its branches; (11) spasm of the retinal artery; (12) lesions of the optic nerve, as congestion or edema of the nerves, retrobulbar neuritis and optic atrophy; (13) glaucoma; (14) paralysis of one or more ocular muscles; (15) lenticular opacities; (16) vitreous opacities; (17) subconjunctival hemorrhages; (18) asthenopia.

Discussion—W. E. Shackelton, M. D., Cleveland.

2. "The Etiology of Senile Cataract"—

Chas. Lukens, M. D., Toledo.

Abstract: The essence is disturbed nutrition of the crystalline lens. The embryology of the lens and capsule is considered. The function of the capsule is a protecting and regulating one. The nutrition of the lens is obtained by osmosis from surrounding media. If these media become so modified by certain toxins, exudates or altered composition that the lens is no longer able to get proper nutrition, this altered nutrition may produce opacity. Age, heredity and the different theories are considered, especially Römer's cytotoxins, angio-sclerosis and Risley's choroiditis. The last named condition is the result of prolonged asthenopia, which may be from several causes, and probably accounts for more cases of cataract than any one thing. The cause of many cases is obscure, and no single etiological factor can account for all.

Discussion—W. H. Snyder, M. D., Toledo.

3. "Observations on Major Smith's Operation for Cataract"—

J. W. Millette, M. D., Dayton.

Abstract: Brief description of the operation as observed by the author. Special instruments, unique and effective. Violence to the cornea greater than in capsulotomy method. Capsule permanently disposed of; no secondary operation necessary. Vitreous loss more imminent; percentage higher. Pupil not so slightly. Post-operative complications quite rare. Visual results better.

4. Demonstrations of Steps of the Smith Cataract Operation"—

D. W. Green, M. D., Dayton.

Discussion—D. T. Vail, M. D., Cincinnati.

5. (a) "Ophthalmia Neonatorum, from the Standpoint of an Obstetrician"—

Wm. E. Gillespie, M. D., Cincinnati.

Abstract: The attempted cure of existing gonorrhea previous to labor.

(b) "Blindness in Hamilton County, with Special Reference to Ophthalmia Neonatorum"—
(Stereopticon illustrations.)

Louis Stricker, M. D., Cincinnati.

Abstract: The work of the blind commission has brought home a realization not only of the economic value of eyesight, but of the great moral responsibility of the medical profession both to the state and the individual to use every known means to prevent blindness at birth.

Discussion—S. C. Ayres, M. D., Cincinnati.

6. "Treatment of Choked Disc, with Special Reference to Decompressing Trephining"—
A. R. Baker, M. D., Cleveland.

Abstract: Every case of choked disc, luetic or otherwise, should first be treated vigorously with iodine and mercury. If not responding favorably, the question of operative interference must be seriously considered to prevent blindness. (a) Incision of optic nerve sheath; (b) lumbar puncture; (c) decompressing trephining.

Discussion—Herman Hoppe, M. D., Cincinnati.

Wednesday, 8 p. m.

Evening Addresses

The Technique of the Modern Radical Mastoid Operation, with Sinus Thrombosis Complication"—

(Stereopticon illustrations)

Dr. Frank Allport, Chicago, Ill.

"Further Observations on Bismuth and Other Paste Treatments in Suppurative Diseases of the Nose and Ear"—

(Stereopticon illustrations)

Joseph C. Beck, M. D., Chicago, Ill.

General smoker.

Thursday, 9:30 a. m.

EAR, NOSE AND THROAT

1. "Some Advantages of the Submucous Incision for the Reduction of Hypertrophied Turbinals, with Report of Cases"—

C. P. Linhart, M. D., Columbus.

Abstract: The method of establishing a permanent reduction of hypertrophied turbinals is yet an unsolved question in nose surgery. Cautery and caustics are transient in their effect and have to be repeated. The removal of a section of the inferior turbinal destroys a part of an important functioning membrane, and, while it permits the passage of air through the nose through the opening made by the removal of a piece of the turbinal, it does not give the anticipated improvement of the condition. The chief points of advantage of this operation is that it shrinks the vascular tissue of the turbinals, allowing free respiration of air through the nose; cutting across the walls of the venous sinuses causes their obliteration, and a permanent shrinkage results from the inflammatory adhesions; the base of the scar is on the turbinate bone, the seat of greatest traction; there is no destruction of mucous membrane, and no open wound to heal by granulation; it requires but a short time for surgical treatment (usually two or three days), and on account of no destruction of mucous membrane there is no interference with the physiological functions of the nose.

Discussion—C. B. Nelles, M. D., Columbus.

2. "Reflex Vaso-Motor Disturbances of the Nasal Mucous Membrane"—

F. M. Blake, M. D., Columbus.

Abstract: This paper will attempt to present a brief and condensed review of the factors involved in vaso-motor affections of the nose, that may serve as a basis for a general discussion of the subject. Those conditions in which the reflex originates in the nose and affects other organs are excluded.

Discussion—A. B. Thrasher, M. D., Cincinnati.

3. "New Instruments and Methods in Removing the Faucial Tonsil"—

Mark D. Stevenson, M. D., Akron.

Abstract: Desired condition of tonsillar fossa. Preparation and position under general anesthesia. Anesthetic, instruments and methods employed. Preparation and position for tonsillectomy under local anesthesia. Instruments and methods preferred. Consideration of removal of peritonsillar tissue. Treatment of immediate and secondary hemorrhage. After-treatment.

Discussion—W. E. Murphy, M. D., Cincinnati.

4. "Method of Opening the Antrum Through the Auditory Meatus as the First Step in the Mastoid Operation"—

Samuel Iglauer, M. D., Cincinnati.

Abstract: Some considerations regarding the surgical anatomy of mastoid antrum. The usual methods of uncovering the antrum—Schwartz's operation, Zaufal's operation, Stacke's operation, the meatal route as suggested by Von Troelsch and Wolf. The author's method of exposing the antrum by enlarging the bony meatus in an upward and backward direction by means of a side cutting electric burr. Report of cases. Advantages of the operation upon the temporal bone.

Discussion—Wm. R. Dabney, M. D., Marietta.

5. "The Extension of Suppuration from the Middle Ear Through the Internal Ear to the Brain"—

John A. Thompson, M. D., Cincinnati.

Abstract: In some patients with chronic purulent otitis media there is an infection of the labyrinth and an extension of this infection through the internal auditory meatus to the brain. This extension of the inflammation is indicated by symptoms which should be recognized and the patient operated upon before there is dangerous intracranial complications.

Discussion—C. R. Holmes, M. D., Cincinnati.

Case Reports, Exhibits, Specimens, etc.

(a) "Report of Two Cases of Torticollis of Ocular Origin"—

Victor Ray, M. D., Cincinnati.

(b) "An Unusual Hypertrophy of the Conjunctiva"—

F. W. Blake, M. D., Cleveland.

(c) 1. Tonsillar Dissecting Scissors"

2. Electric Headlight"—

Myron Metzenbaum, M. D., Cleveland.

(d) "X-ray Photographs of Foreign Bodies in Upper Air Tract and Suppurative Sinus Cases"—

Joseph Ricker, M. D., Cincinnati.

Thursday, 2:30 p. m.

EAR, NOSE AND THROAT CLINIC

At City Hospital. Conducted by Drs. Frank Allport and Joseph C. Beck, of Chicago.

Considering the subject matter on the above program and the character of the essayists and discussants, the Cincinnati meeting should prove a record breaker.

The program contains some material which is original, some which is new and some which is timely and will interest not only the specialist, but obstetricians and general practitioners.

We will have two guests this year instead of one as formerly, both of whom are gentlemen of international reputation in this special line of work.

In addition to their illustrated addresses, which will be given Wednesday evening, they will conduct a clinic Thursday afternoon at the City Hospital, where Dr. Allport will demonstrate his method and technique in the radical mastoid and Dr. Beck will demonstrate the use of the bismuth and other paste treatment in suppurative sinus cases.

The Eye, Ear Nose and Throat Section will hold its meeting in Room F, on the parlor floor of the Sinton Hotel.

The papers are limited to fifteen minutes, and leading discussants and others to five minutes.

Those attending are requested to register with complete name and address and whether practice is limited to nose, throat and ear, or eye, ear, nose and throat.

A fee of one dollar is charged to help defray the section expense and should be paid when you register.

Owing to the length of the program and the time being limited to two half days, the meetings will begin promptly at the advertised time.

SECTION ON DERMATOLOGY, PROCTOLOGY AND GENITO-URINARY DISEASES

Wednesday, 1:30 p. m.

PROCTOLOGY

Address by the chairman.

"Pruritus Ani,"—

Walter Irwin Le Fever, M. D., Cleveland.

"The Rectal Tube; Its Uses and Abuses"—

U. S. Grant Deaton, M. D., Toledo.

"The Practical Treatment of Hemorrhoids"—

Wells Teachnor, M. D., Columbus.

"Some Observations on the Treatment and Management of Hemorrhoids"—

Daniel W. Shumaker, M. D., Canal Dover.

"Acquired Angulation of the Sigmoid"—

B. Merrill Ricketts, M. D., Cincinnati.

"Fistula in Ano, with Special Reference to Tuberculosis"—

George B. Evans, M. D., Dayton.

"Pelvi-Rectal Abscess"—

Justin M. Waugh, M. D., Cleveland.

Wednesday, 7:30 p. m.

"Colopexy for the Relief of Otherwise Incur-

able Intestinal Ptois Causing Constipation and Autointoxication"—

Samuel G. Gant, M. D., New York City.

"Tuberculosis of the Testicle, with Case Reports"—

Robert C. M. Lewis, M. D., Marion.

"Case Reports of Traumatic Lacerations of the Urethra, the Operation for Same, with the Results"—

Homer H. Heath, M. D., Toledo.

"Palliative Treatment of Prostatic Hypertrophy"—

A. J. McCracken, M. D., Bellefontaine.

Thursday, 9 a. m.

GENITO-URINARY SURGERY

"Gonorrhea; Translation of Prof. Finger's Monograph"—

Myron Metzenbaum, M. D., Cleveland.

"Gonorrhea in the Family"—

T. M. Reade, M. D., Springfield.

Address by the secretary.

"Ureteral Calculi"—

Charles Melvin Harpster, M. D., Toledo.

"Senile Catheterization"—

J. C. Tritch, M. D., Findlay.

"Vesiculitis Seminalis"—

S. J. Wright, M. D., Akron.

"Plastic Surgery for the Relief of Cirrhosis of the Bladder Orifice with Report of Four Cases"—

Robert S. Walker, M. D., Toledo.

"A Further Report of Tuberculosis of the Kidney"—

William E. Lower, M. D., Cleveland.

"Case Report"—

Sylvester J. Goodman, M. D., Columbus.

"Phosphatic Casts of Unknown Origin, Complicating Gonorrhea, with Report of Cases"—

Frank Oakley, M. D., Cleveland.

"The Diagnosis and Treatment of Vesical Calculi in Children"—

C. D. Kurtz, M. D., New Philadelphia.

Friday, 9 a. m.

DERMATOLOGY

"Some Thoughts Upon Dermatology"—

David Moury, M. D., Bellefontaine.

"Acne Vulgaris, with Special Reference to Its Etiology and Treatment"—

William O. Roop, M. D., Dayton.

"The Medical Treatment of Acne"—

William Sampliner, M. D., Cleveland.

"The Therapeutic Test of Syphilis"—

Jeremiah Metzger, M. D., Toledo.

"Diagnosis and Treatment of Syphilis, with Lantern Demonstration"—

M. L. Heidingsfeld, M. D., Cincinnati.

"The Treatment of Syphilis by Deep Injections"—

A. Ravogli, M. D., Cincinnati.

"The Non-Operative Treatment of Cancer"—

Eaton Holbrook, M. D., Lebanon.

"Reports of Some Rare Skin Cases"—

Charles J. Shepard, M. D., Columbus.

"Angioneurotic Oedema, with Report of Two Interesting Cases"—

Richard A. Bolt, M. D., Cleveland.

"Case Report"—

A. W. Nelson, M. D., Cincinnati.

SECTION ON OBSTETRICS AND PEDIATRICS

Wednesday, 2 P. M.

1. "Perineal Herpes in a Case of Pneumonia in an Infant"—

John Phillips, M. D., Cleveland.

2. "The Delicate Child"—

E. W. Mitchell, M. D., Cincinnati.

3. "Bacteriological Report of a Diphtheria Epidemic at the Girls' Industrial School at Delaware, Ohio"—

Ernest Scott, M. D., Columbus.

4. "Cyclic Vomiting in Childhood"—

Alfred Friedlander, M. D., Cincinnati.

5. "The Diagnosis and Treatment of Potts' Disease"—

A. M. Steinfeld, M. D., Columbus.

6. "Adenoids"—

George C. Schaeffer, M. D., Columbus.

Wednesday, 8 p. m.

"The Province of the Medical Milk Commission"—

(Lantern Slides)

O. P. Geier, M. D., Cincinnati.

Thursday, 9:30 a. m.

1. "The Causation of Extra-Uterine Pregnancy"—

James W. Rowe, M. D., Cincinnati.

2. "The Indications for Cesarean Section, with Report of Two Cases"—

Wm. D. Porter, M. D., Cincinnati.

3. "The Recognition and Treatment of Pre-Eclampsic Toxaemia"—

F. S. Clark, M. D., Cleveland.

4. "Some Points in the Diagnosis and Treatment of Eclampsic Toxaemia, with Report of Vaginal Caesarian Section in the Pre-Eclampsic Stage"—

A. J. Skeel, M. D., Cleveland.

5. "The Problems Presented to the Obstetrician in Cases of Hydrocephalus"—

William Gillespie, M. D., Cincinnati.

6. Title unannounced.

E. W. Doherty, M. D., Toledo.

7. "Report on One Thousand Recorded Obstetrical Cases, with Maternal Mortality"—

Alfred Gaither, M. D., Cincinnati.

SECTION ON MENTAL AND NERVOUS DISEASES

PRELIMINARY PROGRAM

Wednesday, 2 p. m.

1. Remarks by the chairman,
Brooks F. Beebe, M. D.

2. "The Progress of Alienism"—

C. S. McDougall, M. D., Athens.

Discussants—George Stockton, M. D., Columbus; K. S. West, M. D., Cleveland.

3. "Insanity, Feigned and Real, as a Defence for Crime, with Illustrative Cases"—

W. R. Wall, M. D., Cleveland.

Discussion—W. C. Kendig, M. D., Cincinnati; A. F. Shepard, M. D., Dayton.

4. "Malingering and Its Detection"—

E. E. Gaver, M. D., Columbus.

Discussion—F. W. Harmon, M. D., Cincinnati; C. C. Kirk, M. D., Toledo.

5. "Two Cases of Tumor of the Pons"—

Philip Zenner, M. D., Cincinnati.

Discussion—W. B. Laffer, M. D., Cleveland; H. H. Hoppe, M. D., Cincinnati.

6. "Myatonia Congenita of Oppenheim, with Report of Case"—

W. B. Laffer, M. D., Cleveland.

Discussion—F. W. Langdon, M. D., Cincinnati; Bishop McMillan, M. D., Shepard

7. "The Brown-Sequard Syndrome, Its Present Status"—

D. I. Wolfstein, M. D., Cincinnati.

Discussion—C. F. Hoover, M. D., Cleveland; Louis Miller, M. D., Toledo.

8. "Sensory Insanity"—

R. Harvey Cook, M. D., Oxford.

Discussion—B. A. Williams, M. D., College Hill; Angus McIvor, M. D., Marysville.

Thursday.

1. "Huntingdon's Chorea"—

F. W. Langdon, M. D., Cincinnati.

Discussion—H. S. Upson, M. D., Cleveland; W. D. Deuschle, M. D., Columbus.

2. "After Care of the Insane"—

G. H. Williams, M. D., Columbus.

Discussion—H. C. Eyeman, M. D., Massillon; Cecil George, M. D., Dayton.

3. "Some Phases of Automatism in Epilepsy"—

W. H. Pritchard, M. D., Gallipolis.

Discussion—H. H. Drysdale, M. D., Cleveland; G. G. Kineon, M. D., Gallipolis.

4. "Something I Have Learned About Epilepsy"—

D. N. Kinsman, M. D., Columbus.

Discussion—H. C. Rutter, M. D., Columbus; Mary L. Austin, M. D., Gallipolis.

5. "Moral Re-education as an Essential Part of the Treatment of the Neurasthenic Class"—

G. T. Harding, M. D., Columbus.

Discussion—Mary K. Isham, M. D., Columbus; E. J. Emerick, M. D., Columbus.

6. "Psychasthenic States"—

W. D. Deuschle, M. D., Columbus.

Discussion—G. T. Harding, M. D., Columbus; Brooks F. Beebe, M. D., Cincinnati.

7. "Psychotherapy"—

Discussion—G. F. Cook, M. D., Oxford; Geo. R. Love, M. D., Toledo.

8. "Subtemporal Decompression for Cerebellar Tumors; Its Dangers"—

H. H. Hoppe, M. D., Cincinnati.

Discussion—W. R. Hall, M. D., Cleveland; E. E. Gaver, M. D., Columbus.

SPECIAL ANNOUNCEMENT

There will be a meeting of the Auxiliary Committee on Public Policy and Legislation on Wednesday evening, at 7:30 o'clock.

The general profession is especially invited to hear the addresses by W. E. Gillespie and L. Stricker in the interest of the prevention of blindness before the Eye, Ear, Nose and Throat Section on Wednesday afternoon.

SPECIAL EXHIBIT

A milk and dairy institute will be in operation on Fourth street opposite the Hotel Sinton. The members and guests of the Association are invited and urged to attend.

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CORRESPONDENCE

NOTICE OF MEDICAL CONGRESS AT BUDAPEST.

Philadelphia, April 9, 1909.

To the Editor:

I have received a letter from the Secretary-General of the Congress to be held at Budapest, an abstract of which I add: "Authors of communication have time to send in their papers until the fifteenth of May, and if not able to prepare them to that date, they may be presented at the time of the Congress, with the difference that such communications will be published in the second volume of the Congress Reports.

Very truly,

J. H. Musser.

Hamersville, Ohio, April 12, 1909.

To the Editor:

In obituary notice of Dr. Reamy it is stated that he was the first American to teach clinical obstetrics.

Dr. Gunning S. Bradford founded in New York in 1850 the first obstetric clinic.

Very truly,

R. B. McCall.

STATE BOARD NEWS

RETIREMENT OF H. E. BEEBE.

H. E. Beebe, whose term as a member of the State Medical Board expired on March 17, was one of the members of the original Board. During his service he missed but one meeting. He was never too busy to drop his work when his services in behalf of the Board were needed. Upon numerous occasions he represented the Board in conferences held for the purposes of bettering the conditions of the medical profession. As a result of his long and faithful service he has endeared himself to all with whom he has come in contact.

It was befitting therefore that the following resolution should be unanimously adopted by the Board:

"Resolved, That we sincerely regret to lose the services and companionship of the oldest member (and only one remaining of the original Board) and that in his retirement he takes with him our best wishes for his future happiness and prosperity."

The next examination of the State Board will be held in the Gymnasium Building, Ohio State University Grounds, Columbus, on June 8, 9, 10, 1909.

Thomas A. McCann, of Dayton, has been appointed as a member of the Board to succeed H. E. Beebe, whose term expired March 17, 1909.

At the meeting of the Board on April 6, the certificate of Alfonzo Aratus, of Cincinnati, was revoked, the charge of gross immorality having been sustained.

The Board was enjoined from acting upon the application for revocation of the certificates of Albert C. Goode, who it is charged, was connected with an "Anatomical Museum" in Cleveland in a professional capacity. Similar action was taken concerning the application for revocation of the certificate of A. B. Barker, of Dayton, who is charged with gross immorality.

Seven reciprocity certificates were granted at the April meeting. Five to applicants from New York, and two to applicants from Indiana.

Akron, O., March 22nd, 1909.

Mr. President of the M. D. Board of health.
Columbus, O.

Please send me the Laws of practicing medicine and surgery operation and the wrights what a magnetic healer has and Oblige youre friend

Akron Ohio

MEDICINE'S ETHICS.

[Cleveland News.]

In an editorial of its current issue the Cleveland Medical Journal expresses satisfaction at the con-

viction of two men arrested for maintaining an indecent exhibit in the name of medicine and gives credit for that result to Prosecuting Attorney Cline, to Secretary Matson of the State Board of Medical registration, and to The News. The editorial further says:

"It is to be hoped that this is but the first of a series of such convictions to be secured in the near future. Medical men have been criticised for not showing sufficient energy in denouncing and prosecuting these concerns, but their hands are too often tied and the prosecution must take its course through the regular legal channels."

Just what it is that ties the hands of physicians when there is work to be done in the name of civic decency and right is not stated by the Medical Journal. But those who have ever tried to enlist the help of doctors in a matter of this kind will have no difficulty in recognizing the fettering tie as the fear of being considered "unethical" or "unprofessional," terms which, to the average practitioner's mind, express the very limit of degradation.

A few years ago The News found that quack doctors were plying their trade in Cleveland with an effrontery and success seemingly inimical to public welfare. Accordingly, The News set about exposing the quacks and protecting the public from their wiles, as simply as it might undertake to remedy any other public affliction.

The effort was not unsuccessful. The results, in fact, were warmly commended by representatives of the medical profession. But the profession did not share the credit, for the reason that its members, with one or two gratifying exceptions, had declined to take any part in the work.

Some professions, like the bar and clergy, concern themselves with the elimination from their ranks of unfit members. Their efforts naturally are effective. Of course a lawyer is of more help than a layman in the prosecution of a shyster. Of course a doctor, if he would, could be of the utmost assistance in dealing with a quack. But he will not. Much as he deplores quackery, he reverences "professionalism" more.

The quacks know this and count on it for protection. Those charged with conducting prosecutions in the regular legal channels know it and govern themselves accordingly. No great number of such prosecutions will be likely to be brought so long as the reputable profession holds itself aloof in the attitude of an injured innocent, glorying in its helplessness.

MEDICAL ECONOMICS

PROFESSIONAL DUTY AND THE VITAL STATISTICS LAW.

J. J. Boone, of Mt. Victory, has been arrested for failure to comply with the vital statistics law. For the reason that the law does not provide pay for such service, he has refused to report deaths. If necessary, he proposes to carry his case to the Supreme Court. It is a test case and will likely result in sustaining the new enactment. There are few physicians who oppose the law on the ground that its provisions require services without compensation. The rank and file of the profession are willing to comply with the requirements of the state. They report cases of contagious diseases to health authorities as an aid to public health service. They report birth and deaths, knowing that vital statistics are necessary to scientific medicine and public sanitation. They know that the sanitary and medical interests of the public are identical with the cardinal principles of medical organization. They know that such organization should not and could not exist if it did not regard these interests of supreme importance.

Every profession, whether law, journalism, education, medicine, ministry, etc., principally exists in the interest of the public. The organized effort of each one is directed to this end. Failing in this it would degenerate and fail of its own mission. The state, recognizing the functions of the various professions toward the people, enacts and enforces laws to conform to professional standards.

Vital statistics stand in relation to the public good. The organized medical profession appreciates this fact and has been instrumental in securing the vital statistics law. All sanitary laws represent the progress of the medical profession. Professional standards are expressed in the language of state medicine. Medical licensure by the state is intended to safeguard public interests and imposes those conditions of qualifications and public service which the right to practice medicine implies.

Men whose occupations stand in relation to the public health are required to conform to certain rules of conduct. The vendors of meat, milk and other food stuffs, the barber, the undertaker, the plumber, engineer and the like are required to protect the public according to law. Their license to do business is based upon conditions requiring extra labor, time and expense. There is no calling whose activities are more important to the

public health than the practice of medicine. The law cannot make an exception. He has no authority to practice medicine unless he conforms to all the laws of the state intended to protect the medical and sanitary interests of the public. These laws include the medical practice act, health laws and the vital statistics law. These laws were passed in the interests of the people and not especially for the medical profession. They were enacted for the physician to obey. Since the dignity and worth of medicine as an organized profession rests upon conformity to the public good, the physician is in honor and duty bound to support professional standards as expressed in state medicine. If the licensed practitioners refuse to respect medical laws and professional standards, the profession becomes stranded on the rocks of commercialism and quackery. When the tradesman fails to obey the law, prescribing sanitary conditions, his license is revoked. The physician is not exempt from the operations of health laws. The butcher and the baker and all the rest working under the health laws of the state or municipality do not receive or expect pay for conforming to such laws, and it is a foregone conclusion that the courts will not grant special favors to physicians under the operations of the vital statistics act.

Small clinging pieces of adenoid tissue which have not been removed by the curette will very likely set up an inflammatory reaction on the posterior pharyngeal wall which is more distressing than the adenoids themselves.—*American Journal of Surgery.*

In making up the so-called normal saline solution it is of importance to have the percentage of sodium chloride relatively exact, i. e., seven to nine per cent, no more, no less. Ringer, Howell, Loeb and others have shown that a solution as low as six per cent dissolves the red cells and abstracts salts from the tissues and a solution as high as ten per cent causes the cells to shrivel. When normal saline solution is to be given continuously for a long time, calcium and potassium chloride should be added, the former acting as a stimulant to the heart muscle, while the latter is essential for its rhythmical contraction and relaxation.

In my experimental work I have found the following to be the proper percentage, viz.: Calcium chloride, 0.25; potassium chloride, 0.10; sodium chloride, 9.00; sterilized water, 1000 c. c.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

MESHED NET TO HOLD SKIN GRAFTS IN PLACE.

Davis (*Annals Surg.*, March, 1909, p. 416) describes a neat, convenient and efficient way of using meshed net to hold skin grafts in place. The net, which should have meshes at least 1 cm. ($\frac{1}{2}$ inch) across, is dipped in liquid gutta percha (30 parts in 150 of chloroform) and dried. When cut in sizes suitable for use, it is laid between with alternate layers of gauze and placed in a 1-1000 bichloride solution until used. It keeps several months.

The grafts are applied in the usual way, the net laid over them and on to the healthy skin an inch or so, where it may be fastened with adhesive plaster. The usual gauze wet in normal salt solution is applied and the part bandaged. In thirty-six to seventy-two hours the gauze is removed, the part cleaned with salt solution without disturbing the net and the dressings re-applied. Using the net dressing is clearly much easier done than is possible with the customary strips of rubber tissue, which are always slipping and washing off.

THE "SPLIT FEE" AND THE "RADICAL."

Moore, of the University of Minnesota (J. A. M. A., March 20, 1909, p. 935), is disposed to class physicians into conservatives, who never operate, radicals, who always operate, and the progressive surgeons, who temper their decisions with careful judgment as to the ultimate welfare of the patient. Of the "radical" he says: "He is one who believes that operations are the whole of surgery and that any one who can secure primary union of wounds most of the time is a surgeon." He is often inadequately fitted and "too often secures patients by dividing fees with that class of practitioners who have a higher regard for their own pocketbooks than they have for the welfare of their patrons." Continuing, he says:

"The matter of fee splitting may not be a crime, but it is based on deception and offers a premium on incompetence. When this is the basis on which a case is referred, the question in the mind of the one who refers it is not, 'Who is the most competent man to whom I can refer this confiding patient?' but, 'Who will give me the biggest rakeoff?' It is not, 'Who will give the patient the best return for his money?' but, 'Who will put most of this patient's money into my pocket without my having earned it and with-

out his knowledge?' This is not a matter for legislation, but is one to be controlled by medical societies and through education of the rising generation of medical men. Our medical organizations should be so perfected that any one who makes merchandise of his patrons can no longer have the semblance of respectability in the profession. We all know who do this. Why not be outspoken about it? Why not separate the sheep from the goats? Publicity is the surest cure.

"It is our duty to teach our students and young practitioners that this practice is morally wrong; that the teachers and practitioners who are held in the highest respect by the profession are not guilty of this practice, and that they who are entering on professional life must not be if they hope to be classed with the leaders; that it is not a good business proposition because it is based on duplicity, which is sure to become known sooner or later."

[Unfortunately, it must be admitted that an occasional really capable man splits fees. Such an one must certainly be blind to the fact that the ultimate outcome of such a practice is the necessity for larger and larger concessions if his work (except it be some clearly desperate risk) is to be kept from drifting to less competent but more "liberal" colleagues.—Ed.]

TREATING THE PATIENT, NOT THE DISEASE.

The conditions under which the patient must of necessity or should employ a remedy more often than not determine the success or failure of the prescription. The following from the Medical Summary illustrates the point with regard to Dover's powder:

"Dr. A. has success with Dover's powder in treating a cold; Dr. B. says the remedy is no good, and may aggravate matters. Why the difference? Dr. A. gave the remedy at night, accompanied by hot foot baths and other synergistic measures calculated to produce nerve sedation and dermal elimination. He insisted on the patient staying in bed the next day, or at least in the house. The patient soon improved. Dr. B. gave the same kind of treatment, producing relaxation in a thorough manner, but let the patient go about his affairs, constantly "taking more cold." The patient wonders why Dr. B.'s medicine does not help him. So much depends upon the time, manner and place in which drugs and remedial agencies in general are employed.

It always pays to take careful stock of the patient, his idiosyncrasies, habits, occupations, and, in fine, his whole personality."

THE PARA-THYROID.

McLean (J. M. S. M. S., February, 1909) gives us the following facts about these interesting bodies and their location:

"Experiments made on dogs, rabbits, rats, goats, sheep, horses, etc., show that these glands are found in all mammalia.

"These structures are not confined to a definite location and vary in number. They are usually found along the posterior inner border of the thyroid, but may be found above or below the extremes of the gland at some slightly distant point.

"In the great majority of the specimens they lie in the connective tissue outside the capsule of the thyroid, but occasionally one may be found imbedded in its surface. They vary in numbers from one or two to five, six or seven. Forsyth states that they are most numerous during the first year of life, from two to six being found on each side, and decrease until the tenth year, when two are usually found on a side.

"The reports of 626 autopsies of different investigators give the usual number as four, two on each side, posterior to the posterior border of the lateral lobes of the thyroid—and designate them as the superior and inferior—the former being found at the junction of the upper and middle third of thyroid, and the latter at junction of lower and middle third of same structure. The most constant point of location is near the termination of the inferior thyroid artery.

"Forsyth, MacCallum, Rogers, Ferguson and Berkely, closely agree on their shape and size. They are flattened, bean or tongue-shaped, of light brown color, and differ greatly in size, from microscopic, to $\frac{1}{4}$ or $\frac{1}{2}$ -inch in length. Of the reports of 325 specimens, the average size was, length 7 mm., width $3\frac{1}{2}$ mm., and 2 mm. thick. They differ from the thyroid tissue—embryologically, histologically and physiologically."

TREATMENT OF TICS.

Scripture (Arch. Ped., Jan., 1909, p. 10) believes "that a tic arises most often as an action performed for some definite purpose. When the occasion is past the action ceases normally, but in certain individuals it persists involuntarily. These persisting actions are the tics."

The method of treatment he has found most effective is thus described:

"The patient is told to hold a mirror before

himself and to watch for the tic. When he sees it he is repeat it five times voluntarily. His first attempt at imitating his own act is often ludicrously inadequate. The failure of the imitation is specially marked when the tics are unconscious ones. You explain to him that he must try hard to imitate himself exactly and must keep up the effort until it is entirely under his control. The mirror is of great advantage, but it is not necessary. The patient is to voluntarily repeat the tic movement whenever he can catch it.

"The effect of the treatment may be explained, I believe, as follows: The tic is carried out by mental activity of loss than full consciousness; the entire act may have become completely subconscious. Perfect voluntarily imitation of the act is no longer an involuntary subconscious one, but a voluntary conscious act. The tic has been killed."

BOOK REVIEWS

A TEXT-BOOK OF OPERATIVE SURGERY. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By Warren Ston: Bickham, Phar. M., M. D., Visiting Surgeon to Charity and Touro Hospitals, New Orleans. Octavo of 1206 pages, with 854 illustrations, entirely original. Philadelphia and London: W. B. Saunders Company. 1908. Cloth, \$6.50 net; half morocco \$8 net.

The third edition of Bickham's Operative Surgery is an enlargement of a work that has been recognized as a standard. The one thing that has always given this text a distinction over many others is the great amount of surgical anatomy one finds in the description of an operation, thus not only giving one the best technic of the modern surgeons, but also a brief summary of the descriptive and surgical anatomy of the structures involved.

Perhaps the most striking change has been in the addition of a great number of new illustrations and general enlargements of the volume. The last edition of this work contained 984 pages, including 559 illustrations, while in the present edition we have 1204 pages, including 854 illustrations.

The basis of the work comes from a large and ripe experience. The author has been fortunately situated in a center where all things pertaining to medicine and surgery have been generally progressive. We predict great popularity for this edition, especially in the South and Southwest, where the author is so well and favorably known

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

The Cincinnati Academy of Medicine set aside the evening of April 1, 1909, as a memorial meeting for P. S. Conner. The hall was full of admirers of the distinguished dead surgeon. The meeting opened with the report of the committee appointed by the Academy to draw up resolutions of respect. These were read by the chairman, E. W. Walker. The other two members of the committee were H. J. Whitacre and Samuel Ig-lauer. N. P. Dandridge followed with an address on Dr. Conner as a surgeon. He paid a tribute to his writings and said that as a surgeon he was a connecting link between the past and the present, retaining all the accumulated knowledge of the past and refuting with biting sarcasm some of the new ideas of the present. As a diagnostician he was particularly well fitted, reaching his conclusions with lightning-like rapidity, relying in the main on the impulses of his natural senses, which he had made a practice of training. As an operator he was extremely efficient. His reviews of surgical literature were of great value, showing a wide range of knowledge. Fred Forchheimer spoke on Dr. Conner as a teacher. Robert Carothers spoke on Dr. Conner as a friend. He had been Dr. Conner's assistant for ten years. To be closely associated with such a man as Dr. Conner was a liberal education in itself. He said that though a strict disciplinarian, his home life was ideal. He was very fond of children and his favorite saying was: "The young of all animals are interesting, but the most interesting are the young of man." J. E. Greiwe spoke on Dr. Conner as an example. C. L. Bonifield spoke on Dr. Conner as a man. C. D. Palmer, for forty years a colleague of Dr. Conner, spoke on "Worth Makes the Man." Francis Dowling and George B. Orr made feeling remarks.

The Academy of Medicine of Cincinnati presents the following program for April, 1909:

April 5—Section on Specialties. Case reports and exhibition of patients. "Case of Trachoma Healed by Means of Excision of Transitional Folds of the Conjunctiva," Jesse S. Wyler. "Case of Rupture of the Sclera with Luxation of the Lens Under the Conjunctiva," Victor Ray. Paper, "Etiology of Cataract," Louis Stricker. Paper and Demonstration, "The Smith Method of Extraction of Cataract Within the Capsule," D. W. Greene, Dayton. Report of committee of ar-

rangements for the entertainment of the Ohio State Medical Society, May 5, 6 and 7, 1909.

April 12—Surgical Section. Case reports. "Puerperal Eclampsia," Grear H. Baker. "Paraffin Removed from Inguinal Region Originally Introduced for Cure of Hernia," B. C. Willis. Paper, "The Surgical Treatment of Puerperal Eclampsia," M. A. Tate. Discussion—E. G. Zinke, W. D. Porter. Paper, "Hernia," C. C. Crisler. Discussion—J. Ambrose Johnston, C. A. Langdale.

April 19—Medical Section. Paper, "Trichiniasis, with Report of Cases," J. E. Greiwe. Discussion—O. P. Holt, H. L. Woodward. Paper, "Timidity and Insanity," Mary K. Isham, Columbus. Discussion—W. C. Kendig, H. H. Hoppe.

April 26—Case reports. "Perforations of the Intestinal Tract," W. D. Haines. "Aneurism of the Abdominal Aorta," Frank Fee. "Vesical Fistula," H. H. Hines. "Embolism of the Radial Artery," C. C. Fihe. "Report of Milk Commission," O. P. Geier, Chairman.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Surgical Section of the Academy of Medicine of Toledo and Lucas County met in regular session March 26. The general subject was "Obstruction of the Bowels."

W. H. Fisher read paper on the "Causes of Obstruction of the Bowels." The most frequent causes of acute obstruction is strangulation from various causes. Probably the most common cause of strangulation is adhesions from present or former peritonitis. Such obstruction also not uncommonly follows operations in the abdomen with the subsequent development of adhesions. The vitelline remains may result in strangulation. This is known as Meckel's diverticulum and is a remnant of the omphalo-mesenteric duct through which the intestine formerly communicated with the yolk sac. Other causes of strangulation are adherent appendix, mesenteric and omental slits, peritoneal pouches and openings, and adherent fallopian tubes.

Strangulation occurs more often in males than in females.

Another frequent cause of intestinal obstruction is intussusception. This is an invagination of one portion of the intestine into an adjacent portion, thus consisting of three layers of bowels, which form a cylindrical tumor. These invaginations are frequently found post-mortem in the bowels

of children. The cause of the invagination cannot always be made out. Diarrhea or constipation are important predisposing causes, in that the cause of irregular peristalsis, the site of intussusception, varies. The ilio-cecal type, the ileal, the colic and the colico-rectal types are the usual forms. Intussusception may cause death from gangrene, obstruction or peritonitis, or the involved parts may be thrown off in slough.

Volvulus or twists produce intestinal obstruction at times. This is more frequent between the ages of thirty and forty. Usually there is an uncommonly long mesentery, and the intestine twists on this in its long axis. It occurs usually about the cecum.

Strictures are less common causes of obstruction of the acute form, but are not uncommon in producing chronic stenosis. The congenital type is rare. Ulcerations of various kinds—tuberculous, syphilitic, dysenteric—may produce obstruction in healing.

New growths often cause obstruction. Carcinoma is the most frequent, although it occasionally happens that a benign tumor causes obstruction. Extra-intestinal tumors can compress the bowel and so produce a stenosis. Obstruction from foreign bodies or abnormal intestinal contents occasionally occurs. Fruit stones, coins, pins, false teeth, gall stones, enteroliths, may cause obstruction.

W. J. Gillette read a paper entitled "The Treatment of Intestinal Obstruction." Dr. Gillette said that the treatment is fundamentally surgical, and accurate operative technic is important as the frightful death rate from intestinal obstruction is not so much due to the closure of the gut as to the general sepsis which follows.

The surgeon must bring his patient in the best possible condition for operation, as the added shock of an operation may not be borne. Such means are the washing out of the stomach, opening the distended gut above the seat of constriction, allowing the escape of its contents and relieving pressure, enemas of whisky and quinine, and whatever else will improve the patient's resistance.

Delayed cases often die even with the best treatment and care. The high death rate can only be reduced by a better appreciation of the danger by those who first see the patient. If the patient is in a condition to withstand operation, it should be done at once, and even a delay for the purpose of removing the patient to the hospital should not be permitted.

In chronic obstructions, as from malignant growths, the proximal side of the gut becomes

greatly thickened and thus prevents infection in these cases, so operation is not so imperative.

The specific methods of treatment are absolute rest, careful administration of opiates for the relief of pain and shock. Dr. Gillette has seen no benefit from atropine, and the dryness of the mouth adds to the patient's discomfort. The lower bowel should be evacuated with emulsified turpentine or salt solution. The use of purgatives is to be absolutely condemned. Thirst can be relieved by salt enemas. A pint will usually be retained.

Operation is always dangerous, but delays are more so; operation should not be the last resource.

Dr. Gillette makes his incision in the middle line below the umbilicus; then passes his hand to all the ventral herniae openings and into the pelvis, at one of which points the obstruction will usually be found. It may not be best to at once resect a gangrenous portion of the intestine, but to leave it out of the abdomen until the general condition becomes better. If the proximal gut is greatly distended, this should be evacuated before returning it to the abdomen.

The after treatment is simple. Strychnine seems of value, despite contrary reports. Supporting measures—as whisky, quinine, salt solution per rectum—may be needed.

These papers were discussed by Drs. Smith, Dick y, Jacobson, Todd, Betts, Smead and others.

The Medical Section of the Academy of Medicine of Toledo and Lucas County met March 19. N. N. Sallume read a paper entitled "Clinical Appendicitis." Dr. Sallume said that there was an unfortunate tendency to regard every form of abdominal pain as appendicitis, unless the evidence clearly pointed otherwise. The term appendicitis has both to the clinician and surgeon a much broader significance than mere inflammation of the appendix. The term clinical appendicitis was used to include in addition to anatomic appendicitis all diseased conditions of the appendix, not necessarily inflammatory, but with secondary inflammatory conditions, such as cysts, fibroid degeneration, etc.

The classic symptoms of a typical case are abdominal pain, varying in intensity, diffused at first by virtue of the peculiar nerve mechanism of the appendix, but sooner or later becoming limited to the right iliac region. Tenderness over McBurney's point, rigidity of the abdominal wall, cutaneous hyperalgesia, nausea and vomiting, constipation, rigors, fever, increased pulse rate, pal-

pable mass, leucocytosis, with a preponderance of the polymorphonuclears.

The anatomy of the appendix was considered by Dr. Sallume. The attachment is medico-posterior in 90 per cent. of the cases. The appendix is embryologically a part of the cecal pouch. The direction of the appendix varies in different cases. In 30 per cent. of all cases it is directly horizontally and laterally. In 34 per cent. it points perpendicularly upwards. The direction is partially determined by the length and character of the meso-appendix and the size and character of the appendix itself.

The location of the pus cavity and area of sensitiveness, tenderness and pain are found most frequently between the appendix and the ileum at its attachment. Less frequently it is found at other points. Appendiceal abscesses may rupture through the abdominal wall, into the cecum, the general peritoneal cavity, the pleural cavity or the bladder.

The comparative infrequency of appendicitis in women was mentioned and the possible relation of this to the appendiculo-ovarian ligament of Clado.

Appendicitis may occur from various foreign bodies or parasites, but the most usual cause is primary infection.

The lymph circulation is very important. This was described in detail; also the blood and nervous connections.

Appendicitis is distinctly a disease of early life. The second and third decades furnish most of the cases. Gastro-intestinal disorders, especially if the cecum is involved, predispose to infection of the appendix. The most potent factor of appendicitis is obstruction of the lumen of the appendix in any part of its course. This may be due to absence or obliteration of the valve of Gerlach, weakness in the musculature, adhesive bands, intestinal flatulence, changes in the mucous membrane or congenital changes.

The symptoms usually fail to harmonize with the clinical picture. The mildest of symptoms may be encountered in cases with extensive necrosis or gangrene. A classification may be made of (1) catarrhal appendicitis, (2) structural appendicitis, (3) appendicitis with involvement of surrounding tissues.

The onset and clinical picture of appendicitis bear such a striking and puzzling resemblance to a great number of abdominal conditions that it would be very erroneous to suspect it in all cases of pain in the appendix region. We must differentiate gastro-intestinal conditions, typhoid fever, intestinal obstruction, strangulated hernia, pancreatitis, perforation of gastric or intestinal ul-

cers, pneumonia, pleurisy, extra-uterine pregnancy, cholecystitis, nephrolithiasis, pyelitis, peritonitis or salpingitis.

L. A. Levison reported a case of aortic stenosis and pericardial effusion and demonstrated the specimen. The physical signs were shown by stereopticon views.

W. J. Stone reported a case of aneurism of the left coronary artery, with rupture into the left ventricle. The heart was shown.

FIFTH DISTRICT

FRED W. HITCHINGS, M. D., Collaborator.

At the February meeting of the Erie County Medical Society H. D. Peterson read a paper on "The Practical Value of Vaccines and the Opsonic Index." The following is an abstract:

Step by step we advance, and one by one we explain the mysteries of the medicine of our forefathers. Antisepsis has revolutionized surgery, and we hope that the discovery of opsonins by Wright will revolutionize internal medicine. Samuel Gross' dying words were, "Teach the boys antiseptic surgery," and Pasteur prophesied that "all infectious diseases would be treated successfully by vaccination." Thus medicine is becoming more and more a complete science, and physicians unconsciously are neglecting the art of medicine and treat their patients as problems in mechanics, almost having forgotten that they are treating human beings. Such stories are told us by our patients, after they have returned from some of the great hospitals. The progress of science has shrouded art, life, and in some cases character. If we follow the work of the leaders in opsonotherapy, we certainly must be convinced of the practical value of vaccination in the treatment of infectious diseases. The bacteriologist has placed within the reach of all the profession the so called stock vaccines, which, with few exceptions, are equal to and in some cases even better than the autogenous vaccines.

The thing which retarded the progress of opsonotherapy most has been the very exacting technique which was required to take the opsonic index and prepare the autogenous vaccine. Now that the bacteriologist has given us the stock vaccines, the only remaining obstacle is the opsonic index. As more observations are made with such wide variations (even as high as 50 per cent.), many leading observers are questioning the practical value of the opsonic index, stating that the negative and positive phases can be observed clinically and that, if the minimum dose of vaccine be used and not be repeated too often, there is practically no danger of doing harm, as has been proven in general vaccination for smallpox. L. F. Barker, professor of medicine at Johns Hopkins, said, "Vaccine therapy should not necessarily be coupled with the opsonic technique, the index being so greatly variable that it cannot be relied upon; and, after all, the opsonins constitute only one of the active bodies which produce immunity;" and Wright himself states that "clinical symptoms will furnish the immunizator a guide by which he may regulate the immunization pro-

cedure, except in a certain class of cases, where the clinical symptoms cannot be trusted as a guide." If necessary, the blood can be sent by post to a laboratory to have the index determined. To derive the greatest benefit from opsonotherapy, it is absolutely necessary to determine the specific infecting germ or germs, so that the specific vaccine or combination of vaccines can be used. This is easily done by anyone who is familiar with culture media, stains and the microscope. No doubt, as the treatment is more generally used, easier and more accurate ways will be discovered of determining the opsonic index. In carrying out the opsonic treatment, other methods can and should be continued without interfering, such as the draining of abscesses, tubercular cavities, cutting and cauterizing sinuses, ulcers, etc., so that the blood serum rich in the opsonins can substitute an unfavorable for a favorable breeding place for the infecting microbes. The regular medical treatment can also be continued. We cannot help but observe how near right we have been in the treatment of ulcers, sinuses, etc., by scraping, cutting and burning the pyogenic membrane away, which was followed by good results, allowing the so called healthy blood (which was really blood with some opsonic value) to reach and repair the infected area. This would explain why a great many cases of tubercular peritonitis recovered from a simple abdominal incision, as the older surgeons observed. We have all seen hopeless cases of tuberculosis which remained the same or even improved at times, not knowing that the phase of the opsonic index rose and fell (ebbed and flowed) automatically, and that if we could have used the right vaccine at the right time these cases could have been helped. It has been observed that the intra- and extra-vascular destruction of bacteria rose and fell with the number of leucocytes. The origin of opsonins or anti-bodies are yet unknown, but we do know that by vaccination with a specific vaccine the blood serum is altered in such a way that the resisting power of bacteria is lowered and that they are easily destroyed by the phagocytes. Bacteria are not affected by the serum alone, although the serum is essential to the phagocytes. It has been observed that the injection of a great variety of substances into the blood produces a leucocytosis, which increases the resistance to bacteria, and undoubtedly this non-specific increase has been mistaken for specific effects. Thus, anti-diphtheric serum has been observed to be of benefit in scarlet fever, and anti-streptococcal serum in erysipelas. Experimentally, the normal resistance may be also diminished by various kinds of leucocyte poisons, which interfere with phagocytosis; however, very little is known about them.

The hemolytic properties of the blood vary in different species as well as in different individuals, thus explaining the failure of direct transfusion of blood in some cases.

To opsonins Wright gives the principal credit for the natural immunity we all possess in a greater or lesser degree to pathogenic bacteria. As a clinical guide, "when the temperature is continuously high, the opsonic index is low; when it approaches normal, the index rises." "If the viscosity of the blood is great, the action of vaccine may be poor; this may be corrected by sixty grain doses of sodium citrate or citric acid."

After a vaccine treatment, the negative phase is produced, which is manifested by malaise, headache, nausea, etc., to a greater or lesser degree and lasts about twenty-four hours, and is produced by a certain amount of the opsonins, which are used up in preparing the invading bacteria for ingestion by the leucocytes. This is followed by the positive phase, which is manifested by a feeling of improvement and lasts from three to eight days, due to the increase of anti-bodies and opsonins. When Koch first discovered tuberculin, he stated that "in some cases when used right it would produce an immunity to the tubercle bacillus and cure some cases of tuberculosis." His statements were misinterpreted, and the abuse of tuberculin treatment retarded the progress of medicine about twenty years.

That old tuberculin used intelligently produced immunity in some cases has been proven. Better preparations of tuberculin have been discovered in "TR," "BE" and "BF" tuberculin. Detre's differential cutaneous reaction has shown (1) "That bouillon filtrate contains a tubercle toxin not present in old tuberculin; (2) that patients are extremely sensitive to bouillon filtrate and present varying degrees of sensitiveness depending upon the stage of the disease; (3) that the kind of infection, whether bovine or human, may be accurately diagnosed; (4) that it provides a means of controlling the administration of tuberculin superior to the opsonic method, and (5) that the reaction is of the utmost importance in selecting the proper tuberculin for therapeutic purposes." Tuberculin should be administered exceedingly cautiously for diagnostic or therapeutic purposes, as it has done great harm in careless hands. "The physician who disregards as of no importance an increase of a minute fraction of a milligram of tuberculin or a rise of temperature of a few tenths of a degree will meet with disappointment and disaster in the application of the tuberculin treatment." On the other hand, used intelligently with the fresh air treatment, it has given excellent results in the treatment of tubercular joints, adenitis, cystitis, epididymitis, iritis, laryngitis, nephritis, peritonitis and some cases of pulmonary tuberculosis. It may be administered hypodermatically, by the mouth or rectum. The treatment should extend from six months to one and one-half years or longer. Drs. Jeans and Sellards do not consider the opsonic index sufficiently accurate to control tuberculin therapy. The prophylactic employment of tuberculin in infancy and childhood constitutes one of its most valuable uses. The treatment of gonorrheal infections with vaccine has been attended with considerable success. Here we find that there is quite a difference of opinion as to the value of determining the opsonic index. However, the better authorities state that "the danger of the cumulative negative phase is not a real one, and that the clinical symptoms are nearly as accurate as the index." In no case has harm been done by the administration of gonococcal vaccine at Johns Hopkins Hospital when the index was not used as a guide. Drs. Hamilton and Cooke state that they "have secured better results from stock gonococcal vaccine, grown for some time, than from the fresh autogenous gonococcal vaccine." The diagnostic value of gonococcal vaccine has proven very valuable in clearing up many

cases of obscure joint, periosteal and synovial diseases, to which the term chronic rheumatism has been applied; also in bringing to light obscure cases where the microscope has ceased to be of value, especially where matrimony is the paramount issue. The dose varies from five to twenty million gonococci and may be administered hypodermatically, by the mouth or rectum. The positive and negative phases are shorter when the vaccine is administered by the mouth, although the therapeutic effect is about the same as when given under the skin. It is necessary, however, to give it on an empty stomach. Other medical and local treatment can be continued. The following gonorrheal infections have been treated successfully: Acute, subacute and chronic gonorrheal urethritis, acute and chronic prostatitis, epididymitis, periurethral abscess, balanitis, vaginitis, fistula, cystitis, acute and chronic gonorrheal arthritis, ophthalmia and conjunctivitis. The ordinary pus producing germ vaccines have been used more extensively than others, either alone or in combination in the treatment of acne and furunculosis, and the stock vaccines of this type are fully as good as the autogenous vaccines. On the other hand, the stock streptococcic vaccine often proves inert, and the autogenous must be used. Gabritschewsky reports observations made in over 700 children, "in which stock vaccines of streptococci gave good results as a preventive and curative treatment in scarlet fever." To get the best results, vaccine treatment should be instituted as soon as the diagnosis is made.

Wright's dose table is as follows: Coli vaccine, of value in cystitis, fistula in ano and catarrhal jaundice, 5,000,000 to 50,000,000 of the dead bacteria; gonococcic vaccine of value in diseases mentioned, 5,000,000 to 50,000,000; neoformans vaccine of value in ulcerated tumors where this germ is found, 50,000,000 to 100,000,000; pneumococcic vaccine of value in empyema and cystitis, 10,000,000 to 50,000,000; pyocyanus vaccine of value in local infections due to this germ, 5,000,000 to 50,000,000; staphylococci vaccines, aureus, albus citreus or mixed, of value in acute or chronic furunculosis, acne and cystitis, 50,000,000 to 1,000,000,000; streptococcus vaccine of value in abscesses, cystitis and septicemia (the autogenous variety of which is often the only one effective), dose 10,000,000 to 25,000,000, and typhoid vaccine of value in typhoid fever, 5,000,000 to 50,000,000. In mixed infections mixed vaccines should be used. These stock vaccines have been used successfully by Wright and Ohlmacher and others at Johns Hopkins Hospital, Harvard Medical School, Massachusetts General Hospital and elsewhere.

Dr. Geo. M. Ross, pathologist of the City of London Hospital, says in the *British Medical Journal*: "This does not exhaust the list; it only includes the most important conditions. Other micro-organisms are continually being led into the opsonic field as the investigation by these methods proceeds. When, however, I say I know of cases representative of each of the above mentioned morbid processes which have been successfully treated by the methods of Wright I am sure you will agree that it is a most valuable asset in medicine."

The Erie County Medical Society met March 24. N. W. Brown and C. N. Smith, of Toledo, addressed the society.

Dr. Brown spoke on "The Chemical Pathology of the Pancreas," giving the results of Kendig's test for pancreatic disease in thirty-four cases.

Dr. Smith spoke on the need of surgical relief in a class of cases where gall stones are lodged in the compound duct or where the duct of Wirsung is obstructed. A large number of the cases of dyspepsia that never get relief is due to chronic pancreatitis caused by such obstruction.

The papers were of the greatest interest and value, and the society gave the speakers a vote of thanks for their efforts.

The regular monthly meeting of the Huron County Medical Society was held March 11 at Norwalk. The program was as follows: "Diphtheria," S. E. Simmons; "Acute Nephritis," E. N. Hawley; "Iodides," Chas. J. Wehr.

The regular meeting of the newly organized Medico-Legal Section of the Cleveland Academy of Medicine is to be held on the fifth Friday of each month. The first meeting of this section was held Friday, January 29, at the Cleveland Medical Library. The program was as follows: "Some Medico-Legal Problems from the Standpoint of the Attorney," Judge Alexander Hadden; discussion by Robert B. Newcomb. "Some Medico-Legal Problems from the Standpoint of the Physician," Thomas A. Burke; discussion by Benjamin B. Holliday.

The object of this section will be the consideration of subjects having a medico-legal aspect and legislation. As this is a regularly organized section of the academy, all members of the academy may become members. Members of the bar may apply for associate membership in the academy. The membership fee is \$2; annual dues \$1.

The fifty-ninth regular monthly meeting of the Lake County Medical Society was held at the Parmly Hotel, Painesville, on Monday evening, April 5. Hon. G. W. Alvord delivered an address on "Some Problems of Medical Jurisprudence." The Rose law was also discussed.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Jefferson County Medical Society met in regular session Tuesday, April 13, at Steubenville,

with the following program: Call to order by the president; reading of the minutes of the last meeting, by the secretary; clinical cases, by the members; reports of clinical cases, by the members; "False Teachers," H. C. Minor; "Faith in Medicine," J. W. Collins.

EIGHTH DISTRICT

CHAS. H. HIGGINS, M. D., Collaborator.

At the meeting of the Muskingum County Medical Society held in March the following program was presented:

W. A. Melick read a paper entitled "Some of the Causes of Undeveloped and Backward Children." Dr. Melick's paper dwelt with the four following causes:

First.—The influence of nasal breathing on growth and development. If the mechanism of nasal breathing be deranged, the functions subserved by the nares, such as the heating of the inspired air, the additions of watery vapor and the filtration of solid particles, are all interfered with, resulting in catarrhal disturbances and impairment of hearing in case of extension of the eustachian tube. Imperfect expansion of the lungs and deformity of the chest also occur. The principal impediments to perfect nasal breathing are adenoid growths in the naso-pharynx, enlarged tonsils, polypi, exostoses and deflected septum. Every school child should be examined to determine the existence or absence of these constructions.

Second.—Defective vision is the source of perhaps more trouble in school children than the previously mentioned cause, but parents and teachers are appreciating the ill effects of this defect in late years; yet many children go through school handicapped by some error of refraction unsuspected by parent or teacher. No standard of school text-books has been established based on adequate research as to the length of line for the various ages, size of type, size of the stroke of letters in connection with lines, the width of the margin, the use of half-tones, the use of dead finished as compared with coated paper, etc. Many nervous conditions, muscle twitching, etc., can be traced to defective vision.

Third.—Decayed and defective teeth constitute such a source of nervous irritation that the public has begun to take notice, and a bill was recently introduced into the Legislature making it compulsory to have the teeth of all school children examined by a competent dentist.

Fourth.—Elongated prepuce. The medical profession fully recognizes the necessity of circumcising the young child in some cases, but do not

fully appreciate the various neuroses from which the school boy may suffer. An illustrative case is that of a boy two and a half years old and perfectly healthy, who developed at times a marked lameness of his right leg. Melick's diagnosis was a faulty nerve supply to the extensor muscles, and he recommended massage only. This case was diagnosed as tubercular hip by one of the most prominent surgeons in the city. Columbus surgeons were consulted, with the result that a diagnosis of functional neuroses was made. During the examination the elongated prepuce was observed. Dr. Melick circumcised the child, and the lameness was cured.

This paper was thoroughly discussed, and was timely, owing to the recent agitation regarding the examination of school children.

H. T. Sutton reported the removal of a dermoid cyst, with specimens of bones and hair removed from a colored girl. This tumor was observed by the family nine years ago, and pregnancy was suspected. The tumor weighed exactly one-fourth the weight of the girl. A pathological examination of the tumor was made by J. R. McDowell.

NINTH DISTRICT

S. P. FETTER, M. D., Collaborator.

The Pike County Medical Society had large attendances at their March and April meetings. At the March meeting E. W. Tidd, of Stockdale, read a very interesting essay on diphtheria, arousing considerable discussion, especially on the bad results from the use of the serum in this disease.

At the April meeting I. P. Seiler, president of the society, read a well prepared paper on spotted fever. A lengthy discussion followed, in which several members reported cases. J. L. Caldwell, of Waverly, reported a number of cases he had in his practice, four of which were in one family.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

The Columbus Academy of Medicine at its regular meeting, March 1, rendered the following program: "The Columbus Water Supply," E. G. Horton. The paper was discussed by Drs. Probst, Moore, Kinsman, C. S. Means, Warner, Bleile, Harding, Hatton, Winders, Upham, B. R. Rickards, State Bacteriologist, and closed by Dr. Horton.

Abstract of paper read before the Columbus Academy of Medicine, March 15, 1909, on "The Columbus Water Supply," by E. G. Horton, M. D.

The speaker first gave a historical sketch of the Columbus water supply since its inception in

1871, showing the gradual development as the needs of the city increased, until the recently erected storage dam and purification and softening plants assure the community of a satisfactory water.

While formerly derived from wells, filter galleries, Olentangy and Alum creeks and Scioto river, the present supply is entirely from this latter.

He outlined the numerous opportunities for pollution of those various sources, and described the characteristics of the former water. Chemical analysis, average for three years.

PARTS PER MILLION.

Oxygen required	4.42
N. as albuminoid ammonia..	0.180
N. as free ammonia.....	0.041
N. as nitrites.....	0.006
N. as nitrates.....	1.67
Cl. as chlorides.....	9.0
Alkalinity	217.0
Incrustants	156.0
Total solids	651.0

Which means a water largely derived from surface sources and showing evidences of marked pollution from animal and vegetable matter, and also a very hard water. He showed by a very graphic illustration on a chart the comparative qualities of the water of the nine larger cities of Ohio.

The essayist then described the methods of purification now employed, with the chemical reactions occurring, the substances added and the results obtained; showing by chemical equations the falsity of the common ideas as to the presence of "chemicals" in water so purified.

Bacterial examination, in years from 1899 to 1905, inclusive, in the daily examination, the daily tests showed an average of over 4800 bacteria per cc, with colon bacilli present in 60.5 per cent of examinations, showing great need of filtration.

Relation of change in water supply to typhoid fever was strikingly shown by charts, indicating the disease in number of cases immediately after turning the new water into the mains.

In conclusion the speaker urged the members of the academy to help instruct the public as to the present excellent character of the Columbus water and contradict the false ideas more or less current.

Regular meeting March 15: "Tuberculin in the Diagnosis and Therapy of Tuberculosis," C. W. McGavran. The paper was discussed by Drs. Scott, Warner, Stage, A. M. Crane, of Marion, J. A. Van Fossen, Professor McCampbell, of the State University, and closed by Dr. McGavran.

In discussing Dr. McGavran's paper J. A. Van Fossen said: "The subject of the therapy of tuberculin is by no means a new one. It is eighteen years since I saw the first vial of tuberculin that came to America. It was sent direct by Robert Koch to his first and most ardent and loyal American student, James T. Whittaker. To the peroration that followed the presenting of that specimen to the class, by the inimitable Whittaker I listened with credulity to the whispers of fancy, and pursued with eagerness the phantom of hope. I believed the promises there made to youth would be fulfilled by age; and that the deficiencies of the present day would be supplied by the morrow. I thought the medical millenium had come, and that science had at last triumphed over the dread disease, and my only sorrow was that it would be two long years ere I could win my spurs and be eligible to carry the banner of tuberculin in the battle against the "Great White Plague." But by the time I had finished my college course there was a lull in hostilities—only an occasional skirmish along the line—nor am I sure that this was always by the advance guard.

"I am ready to believe that had that warfare been continued with as much vigor, and as little knowledge with which it was at first undertaken, that the tubercle bacillus would now be classed with the "Dodo," the "Mammoth," and the "Megatherium," for I feel that every human being who was at that time a host of the disease would long since have passed to his reward, and the bacillus would have died of inanition, because there would have been no more lungs to conquer.

"I am now speaking of the first crusade, and if I properly interpret the 'handwriting on the wall,' we are about to begin a second crusade, but, unlike the first, this is to be one of discovery rather than of conquest, and I sincerely hope it will be more successful than the first.

"As for tuberculin as a diagnostic measure there seems to be among competent observers a diversity of opinion concerning its merit. It is an accepted fact that 'a positive reaction cannot be interpreted as an infallible criterion of the existence of the disease; nor can a negative test be accepted as an assurance of the absence of tuberculosis.' To me the ophthalmic test, with its immediate tendency of setting up a troublesome conjunctivitis, an ulceration of the cornea or a pannus, and its remote possibility of lighting up a hidden focus of infection, resembles too closely the man who goes into cellar with a lighted match looking for a leak in the gas main.

"There has been in current medical literature such an array of facts and fancies concerning tuberculin, that to him, who, blinded by the fog of enthusiasm, wanders through the wilderness of articles in search of the oasis of truth, I would advise that he carry the compass of conservatism with him, in case he gets lost he can find his way back home."

The following cases were reported:

A. M. Steinfeld presented a girl, aged seven years, to show the ultimate result of an operation performed by him two years ago for the cure of a congenital dislocation of the right hip joint. The Lorenz method was used. The first dressing was changed three months after the reduction of the femur, when a radiogram showed the head of the femur to be prominent and in the acetabulum. The second and final dressing was removed three months later, and the "after treatment" commenced. This had to do with the wearing of a shoe on the non-operated foot, the sole of which was built up three-fourths of an inch; the use of active massage and gymnastics. A radiogram at this time showed the head of the femur in the acetabulum, and a final picture six months later demonstrated that the reduction had been maintained. The patient was discharged as cured. The child walks with scarcely a perceptible limp.

The history of another case, a girl aged eight years, was read, and a radiogram presented to show the result at the time of the last dressing—one year later. The patient was discharged as cured.

Dr. Steinfeld showed the photographs of a baby aged seven months, who had the following (congenital) deformities: Clubbed hands and feet, dislocation of the right shoulder and the left hip. The knee joints were inverted almost in the flexor plane of the legs. The elbow joints were everted, and the humerus appeared to be twisted outward. The child's physical condition is good. The case was presented because of the multiple deformities, the number being unusual. The birth of the child was normal, and at term. The family history relative to deformities was negative. There are five other healthy children in the family. The mother attributes the child's deformities to an injury sustained during the seventh month of gestation, she being kicked in the abdomen by a cow.

F. F. Lawrence presented an appendix which he had removed as the sole contents of a strangulated femoral hernia. The appendix was four and one-half inches long, and was gangrenous in its distal two-thirds. The patient was a female.

A. J. Timberman read the case history of a

patient upon whom he had operated for a suppurative mastinitis. Several weeks later the patient developed symptoms of brain compression, when the mastoid was reopened. The autopsy revealed an abscess in the temporo-sphenoidal lobe of the brain.

G. C. Schaeffer read the history of a case of chronic otitis media, and described the operative technique use in its cure.

Regular meeting, April 19, 1909. "The Treatment of Organic Stricture of the Urethra," by S. S. Wilcox.

Discussion—Drs. W. J. Means and S. J. Goodman.

Dr. Wilcox said in part that in the treatment of gonorrheal strictures, electrolysis, rapid and continuous dilation and divulsion were to be condemned. Gradual dilation and resection were accorded a place in the treatment of stricture, while internal urethrotomy and perineal section were designated as the operations of choice. Reference was made to the mortality following the various methods of treatment.

Dr. Wilcox said that shock, "urinary fever," and suppression of urine were without, while hemorrhage, extravasation of urine and infection were within the control of the surgeon. He believes that the clinical cure depends upon the integrity of the wedge of connective tissue forming between the edges of the cut stricture during repair, and that this integrity is unfavorably influenced by the early use of the sound. He says that the urethra should be left alone for several days after the operation in case no complications arise; that the irrigation of the urethra is actually harmful, and that the bladder should be frequently cleansed by irrigating through the perineal wound. The combined operation—that of internal urethrotomy and perineal section are frequently indicated. Dr. Wilcox is of the opinion that the combined operation, when followed by the plan of post-operative treatment outlined, is the safest and most satisfactory treatment for stricture, complicated or otherwise, located deeper than the fossa navicularis. He reported eleven cases.

"The Diagnostic and Prognostic Value of the Leucocyte and Differential Count in Acute Abdominal Affections," by J. J. Coons and H. O. Bratton. Discussion—Drs. Howell, Winders and Baldwin.

The following cases were reported:

C. F. Bowen showed the skiagram of an ordinary tin whistle removed from the esophagus of a child aged three and one-half years. It had lodged at a point about two inches below the clavicle. The foreign body had caused no particu-

lar trouble during the 127 days it had found lodgment in the esophagus. The child was able to eat without trouble, and since the first forty-eight hours after its lodgment no symptoms of irritation were manifest. For this reason it was presumed that the whistle had passed into the intestinal tract, and the skiagram was taken as a matter of curiosity. The whistle was removed by introducing a straight pair of forceps into the esophagus, and the foreign body grasped and removed under the guidance of the fluoroscope.

S. S. Wilcox related the history of a female, aged eighteen years, who was referred to him because of vesical irritation. The cystoscopic examination revealed the presence of an ordinary iron hairpin within the bladder. It was removed without difficulty under general anesthesia, after the urethra had been dilated so that it would admit the little finger.

W. J. Means read the following case history: Female, aged thirty-eight, multipara, housewife. Has suffered at intervals for several years with gastric and intestinal disturbance manifested by attacks of colic, with bilious vomiting, flatulence, uneasiness in the right abdomen, occasional pain in left chest, at times pain in back near waist line. Always feels some pain and much fatigued while on her feet. Pains and fatigue disappear after lying down. Somewhat emaciated. Frequent desire to urinate at times, also a very free discharge of colorless urine at intervals. Appetite erratic. Bowels constipated. Menses normal.

Physical signs: Skin healthy, heart normal, temperature normal.

A large mobile tumor was felt in the right abdomen opposite umbilicus. The tumor was regular in outline, hard and oval. The range of mobility extended beyond the median line downward into the inguinal region, and upward, disappearing under the costal arch into the right fossa. The tumor was tender and under bimanual pressure could be well outlined. The colon tympany was not interfered with in any part. The patient claimed the tumor had been discovered some two months previous to this examination.

Examination of the urine negative. Examination of blood negative. A diagnosis was made of floating kidney and an operation advised, the character of operation to be determined after kidney was examined.

Operation March 12 in the Delaware Hospital. The patient was put in position for an extra peritoneal operation on the kidney and an incision made in the lumbar space. There was but

very little kidney fat, and no kidney in the normal space. The tumor was pressed into the incision, but it was found necessary to incise the peritoneum to expose it properly. It was then discovered that we were dealing with a large gall-bladder and the liver. Owing to the great mobility, it was an easy matter to deliver the gall-bladder and the right lobe of the liver so that the bladder was fully exposed.

The fluid was withdrawn in the usual manner and found to be a mixture of bile, mucus and flocculent material, and about six ounces in quantity. There was some twelve to fifteen gallstones one-quarter inch in diameter. One calculus was lodged in the cystic duct and encysted so that it was impossible to remove it except by opening the duct. Owing to the diseased condition of the mucosa, it was thought best to make a cholecystectomy which was done without much difficulty. A drainage was attached to the liver where the cystic duct was ligated, and brought out at the lower angle of the lumbar incision. The liver was replaced and wound closed.

Patient suffered from shock, but otherwise made an uneventful recovery. The points of interest in this case are: (1) The extended mobility of the liver and its abnormal shape caused by the enlarged gall-bladder. (2) The delivery of the liver and enlarged gall-bladder through a lumbar incision, and the removal of the gall-bladder while in this position. (3) The absence of the kidney from its normal position. The kidney was found after the replacement of the liver, well up in the lumbar fossa and about one-fourth its normal size.

NEWS NOTES

AMERICAN PROCTOLOGIC SOCIETY.

At the eleventh annual meeting of the American Proctologic Society, to be held at Atlantic City, N. J., June 7 and 8, the following program will be followed, subject to later revision:

On Monday, June 7, the executive council meets at 11 a. m. First regular session of the society at 2 p. m. Annual address of the president, George B. Evans, of Dayton, O., subject, "Progress in Proctology."

Papers.—"A Review of Proctologic Literature for 1908," Samuel T. Earle, Baltimore, Md.; "An Operation for Anal Pruritus," Thos. Chas. Martin, Washington, D. C.; "The Treatment of Pruritus Ani, Including a Consideration of Its Pathology," Wm. M. Beach, Pittsburg, Pa.; "Appendicostomy as an Aid in the Treatment of Malignant and Intractable Dysentery," John L. Jelks, Memphis, Tenn.; "A Consideration of the Pro-

phylaxis and Treatment of Cicatricial Rectal Stricture," Alois B. Graham, Indianapolis, Ind.; "The Use of Spinal Anesthesia in Rectal Surgery," Collier F. Martin, Philadelphia, Pa.; "Vaginal Anus in the Adult" (with report of two cases), Louis J. Hirschman, Detroit, Mich.; "Tubercular Fistula, with Extensive Infiltration" (with specimen exhibited), Saml. T. Earle, Baltimore, Md.; "Abdominal Massage as a Means of Relief in Chronic Constipation, etc., Thos. L. Hazzard, Pittsburg, Pa.; "Intestinal Auto-intoxication: Its Treatment by Irrigation, Wm. L. Dickinson, Saginaw, Mich.; "Peritoneal Adhesions" (with specimen exhibited), Jos. A. MacMillan, Detroit, Mich.; "Diseases of the Colon and Rectum as Caused and Influenced by Pathologic Conditions of Other Abdominal and Pelvic Organs" (illustrative cases), A. Bennett Cooke, Nashville, Tenn.; "Necessity for Routine Examination of the Rectum in Intestinal Diseases" (illustrative cases), Dwight H. Murray, Syracuse, N. Y.; "Ball's Method of Operating on Internal Hemorrhoids," George W. Combs, Indianapolis, Ind.; "Ball's Operation in the Treatment of Cases of Pruritus Ani, with Report of a Case in which Necrosis of the Flap Occurred," Louis J. Krouse, Cincinnati, Ohio; "Test Diet: Its Value in Intestinal Disturbance," Jerome M. Lynch, New York City; "Primary Gonorrhea of the Rectum in the Male," Alfred J. Zobel, San Francisco, Cal.; "Further Observations in the Use of Bismuth Paste in the Treatment of Rectal Fistula," J. Rawson Pennington, Chicago, Ill.; "Venereal Diseases of the Anus and Rectum," Jas. P. Tuttle, New York City; "Some of the Unusual Conditions Which One Meets After a Number of Years Spent in the Domain of Proctology," Jos. M. Mathews, Louisville, Ky.; "Pruritus Ani: Its Etiology and Treatment," T. Chittenden Hill, Boston, Mass.; "Foreign Bodies in the Rectum and Sigmoid Flexure," Edw. A. Hamilton, Columbus, Ohio; "The Treatment of Constipation," Saml. G. Gant, New York City; "A Consideration of Some of the Benign Growths of the Rectum," George J. Cook, Indianapolis, Ind.; "Malformations of the Anus and Rectum," J. Coles Brick, Philadelphia, Pa.; "Naevus of the Anal Region, with Report of a Case Associated with Internal Hemorrhoids," Lewis H. Adler, Jr., Philadelphia, Pa.

SENN CLUB.

At the meeting of the Senn Club held March 26, it was decided to perpetuate the memory of

Nicholas Senn and to bring before the public, lay and professional, the valuable services rendered by Dr. Senn. The means to be employed for this purpose will be decided on later. Dr. Alex Hugh Ferguson was unanimously elected president of the club, and Dr. Arthur MacNeal was re-elected secretary.

At the Dr. Conner memorial meeting of the Academy of Medicine of Cincinnati, held Thursday, April 1, at 8:30 p. m., the following addresses were given: "Dr. Conner, the Surgeon," N. P. Dandridge; "The Teacher," Fred Forchheimer; "The Friend," Robert Carothers; "The Man," C. L. Bonifield; "The Example," J. E. Greiwe.

The second annual meeting of the Norfolk and Western Railway Company will be held in Cincinnati, May 4, with headquarters at Hotel Sinton. Surgeons from the states of Tennessee, Virginia, West Virginia and Ohio are members of this Association, and will be our guests during their stay in Cincinnati. Jos. A. Gale, chief surgeon of the Norfolk and Western Railway Company, is president of the Association, and T. M. Baird is secretary. J. A. Hall, No. 628 Elm street, Cincinnati, Ohio, is chairman of the committee of arrangements.

DEATHS

Thomas J. Reed, M. D., Jefferson Medical College, Philadelphia, 1860; a member of the American Medical Association, Ohio State Medical Association, Stark County Medical Society and former president of the Northeastern Ohio Medical Association and for forty-three years a practitioner in this state, died suddenly at his home in Massillon, March 27, from cerebral hemorrhage, aged seventy-one.

Dr. Reed located in Massillon in 1863, after four years of service in the army. He had been attached to the U. S. S. De Soto and later to the Stars and Stripes, both of which vessels were on blockade duty along the Atlantic coast. Dr. Reed was born in Coshocton. He is survived by his wife and two children, Dr. Thomas F. Reed and Mrs. F. F. Taggart, both of this city.

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ORIGINAL ARTICLES

COLOPEXY AND OTHER SURGICAL PROCEDURES INDICATED IN THE TREATMENT OF CONSTIPATION (OBSTIPATION) DUE TO INTESTINAL PTOSIS.

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and Hospital, New York City.

[Read before the Ohio State Medical Association, Cincinnati, Ohio May 5, 1909.]

Before proceeding further with my paper I desire to emphasize the fact that no attempt will be made to discuss the various causes of constipation nor the numerous therapeutic measures suggested for their relief, and that I will confine my remarks solely to a study of intestinal ptosis and the surgical measures for overcoming it.

The symptomatic and surgical treatment of gastroptosis, nephroptosis, splenoptosis and hepatoptosis are frequently discussed and written about, but *intestinal ptosis* has not up to the present received anything like the consideration which its importance deserves.

Many sufferers of this class can be relieved or cured by controlling their diet, having them wear a mechanical supporter and, when necessary, by re-inforcing this treatment with the rest cure, massage, mechanical vibration, electricity, hydrotherapy, tonics and other medicinal and physical therapeutic measures which will tend to strengthen the suspensory ligaments, bodily musculature, increase the supporting fat about the viscera, minimize the accompanying nervous phenomena and build up their general condition.

But when non-operative measures fail to overcome the patient's malnutrition, constant feeling of fatigue, headaches, insomnia, constipation and the varied manifestations of auto-intoxication, digestive disturbances, colic and dragging pains, an effort should be made to secure relief by surgical intervention.

By the aid of the operations about to be described I have succeeded in curing a large number of markedly constipated persons who had been previously treated without benefit for disease supposedly located in the stomach, intestine, bladder, uterus, ovaries, tubes or rectum. In some cases the operation afforded quick relief from the troublesome manifestations induced by the ptotic gut, but in others it was found necessary to resort to the rest cure, tonics, diet, massage, vibration, electricity and hydrotherapy to diminish nervousness, strengthen supporting ligaments and intestinal and abdominal musculature, increase the quantity of fat about the organs and in other ways to strengthen my patients and hasten their permanent recovery. In fact, I make it my practice to inform this class of sufferers that it will probably be necessary for them to take a post-operative course of treatment to complete the cure, so that they may not be disappointed when relief does not immediately follow operation.

Ptosis of the small intestine rarely requires an operation, because displacement of the small gut is usually due to the pressure of some other ptotic organ and will return to its normal position when such pressure is removed. But when it does not, I endeavor to overcome the trouble by having the patient wear an abdominal supporter.

Ptosis of all or a particular segment of the colon is quite common, and the constipation and other manifestations which arise from it can be quickly relieved frequently by operation. The following are the most useful surgical procedures indicated in the treatment of constipation due to intestinal ptosis alone and when complicated by invagination, twisting or angulation of the gut: (a) Colopexy, (b) colopexostomy, (c) intestinal exclusion, (d) resection, (e) mesocoloplication (mesocolopexy, mesopexy).

(a) *Colopexy*. Colopexy is a term used to describe the operation of fixing a displaced colon to the abdominal wall, but when an individual segment of the large bowel, like the cecum, sigmoid flexure or rectum, is anchored, the procedure is

designated as caecopexy (typhlopexy), sigmoidopexy or proctopexy.

I have performed colopexy seventy-eight times for the relief of intestinal ptosis, alone or complicated, and the results have been most satisfactory. I can recall but one death following the operation, and this was due to peritonitis. In this instance appendicostomy was also performed to provide through and through irrigation for colitis, and the house surgeon accidentally injected the irrigating fluid into the abdomen beside the appendix instead of through it, mistaking the opening.

Minor complications and annoyances, such as nausea, vomiting, colic, enterospasm and pulling pains, occurred occasionally for a short time following the operation, and in some instances a part of the wound gave way through stitch abscesses, but this does not interfere with the result.

Of the above mentioned seventy-eight cases operated upon by me, twenty-five were reported in the American Journal of Surgery in 1905. In this first series of cases, invagination of the sigmoid flexure into the rectum was invariably a complication.

The appearance of the gut, when examined, differed materially. In some cases it was normal; in others small, hard and cordlike, and in still others very thin and enormously dilated.

TECHNIC OF SIMPLE COLOPEXY AND SIGMOIDPEXY.

The steps in this procedure are very simple, and the operation should not require more than twenty minutes, except when unlooked for complications are encountered. The preparation of the patient is the same as for other abdominal operations. When the sigmoid is to be suspended, I usually make a two-inch incision in the median line midway between the pubes and the umbilicus or through the left rectus muscle on the same level; but when the entire colon has collapsed and requires fixation at a number of points I employ a four-inch median incision, which extends two inches above and two below the umbilicus and passes it to the left, which enables me to reach and anchor all parts of the large bowel.

When the abdomen has been opened, the finger—or the hand, when necessary—is introduced into the cavity and a careful examination made of the liver, kidney, stomach, spleen and the various segments of the colon to determine if ptotic, and, if so, to what extent.

Adhesions which bind the intestine to adjacent structures or cause angulation or twisting of the bowel are destroyed by rolling the gut between the fingers, wiping it with a gauze sponge, or, when the adhesions are firm, by dividing them with knife or scissors. After bleeding has been

arrested by the application of hot compresses, adrenalin, powdered iron or the ligature, rents in the intestine are closed by Lambert sutures, and raw surfaces are covered with peritoneum. Other organs found to be markedly displaced are restored and fixed by one of the procedures devised for the purpose, but when ptotic to but a slight degree they are left alone to be treated later by mechanical supports and measures recommended for replacing and maintaining them in their normal position. The bowel, which has already been freed, is then brought outside the abdomen and inspected to determine the degree of the ptosis and the most satisfactory points of fixation. It is easy to determine where and how to anchor the cecum, the transverse colon, or the sigmoid flexure when ptotic, but it is an exceptionally difficult problem to decide how to group the suspending sutures and avoid sagging, angulation or twisting of the gut when the entire colon has collapsed and requires the formation of new flexures, with anchoring at several points.

I believe that the normally sharp bends in the large bowel are a frequent cause of obstipation, and in order to prevent obstruction from this source after the gut has been restored I make *oval* turns at the usual site of the flexures. This is done by using two groups of sutures instead of one at the corners, anchored at the lower margin of the ribs, and by lifting up and anchoring the transverse colon in such a way that it takes an upward semicircular rather than a straight course across the abdomen.

Placing of the suspensory sutures is easy for the surgeon experienced in this work, but is confusing and difficult for the novice. The manner of placing the stitches differs, depending upon whether or not the *peritoneal surface* of the bowel is brought directly in contact with the *parietal peritoneum* or with the *transversalis fascia*, after it has been scarified. When the two peritoneal surfaces are joined, the bowel may be suspended with the same chromicized catgut sutures employed to close the inner layers of the wound, but when the bowel is approximated to the transversalis fascia I prefer to anchor it with through-and-through sutures of Pagenstecher's linen or silk, because it gives a firmer union. On one or two occasions I have known relapses to follow a union of the peritoneal surfaces of the intestine and abdominal wall. In these cases the weight of the bowel upon the peritoneum caused it to stretch out in the form of a ligament, which in turn permitted the intestine to drop downward and again cause obstipation by becoming angulated, twisted or invaginated.

The supporting sutures may be introduced *into*

the bowel with a cambric, or, preferably, a small sized, flat, straight or curved surgeon's needle; but later, when they are to be carried *through the entire thickness of the abdominal wall*, a Hagedorn or any other long and strong needle is required. When fixation is to be made at a considerable distance from the incision, I use a Zweifel, Peasely or other long handled needle which is curved at the end and has a cutting edge. With the aid of such an instrument fixation of all parts of the colon can be quickly accomplished through one incision. After the bowel has been scarified at the points of anchorage, three or four sutures are placed in the anterior surface of the gut, transversely to its long axis and one-half inch apart, each thread taking three bites into the intestinal musculature, the middle one passing beneath the anterior longitudinal band, the ends being left long and clamped for identification. When all of the suspensory sutures have been introduced into the intestine, both ends of each stitch are in turn threaded into the long handled needle and pushed through the abdominal wall, where they are again clamped to prevent slipping. When all the groups of stitches have been brought outside, they are in turn first made taut, and then the ends are separated and tied over gauze pledgets or pieces of rubber tubing to prevent their cutting the skin. Where the entire colon has collapsed, the sutures supporting the cecum are first introduced and tied and then those which are to suspend the hepatic flexures, transverse colon, splenic and sigmoid flexures are each in turn made fast, care being taken meanwhile to see that no part of the colon is left sharply sagging, angulated or twisted.

The three broad bites taken in the bowel serve to bring the whole of the anterior surface of the gut into contact with the peritoneum or the denuded parietes. This insures a firm union and obviates the danger of the stitches cutting out, as has been known to occur where but one slender bite was taken.

When the anchoring process has been completed, the incision is closed by the layer method, the dressings are applied, and the patient is placed in a bed the foot of which has been elevated some ten or twelve inches.

Following colopexy the patient is kept upon fluids until after the bowel has been moved on the third day, when he is permitted to partake of a limited amount of solid food, and after the expiration of one week he is put upon a regular diet *plus* the addition of broths and rich milk between meals and at night.

Ordinarily, the bowel moves regularly and of its own accord immediately following the opera-

tion, but when it fails to do so the coveted daily stool can be secured temporarily by water drinking and massage, or, when necessary, by the administration of Carabana water in small doses or a mild dinner pill. When the evacuations are dry and tend to accumulate, olive oil or liquid paraffin in liberal doses are useful to soften the feces and lubricate the intestines. When fecal impaction occurs in spite of this treatment, it should be overcome by the administration of castor oil, laxol or copious high enemata alone or in combination.

Gas pains are usually arrested by means of friction-massage, galvanism or hot fomentations applied to the abdomen, but when these remedies fail opium and belladonna alone or in combination should be prescribed to stop the pain and allay intestinal spasms and irritation. It is my custom to have this class of patients wear an abdominal supporter and take good care of themselves for a few weeks following the operation, in order to afford the intestines and other organs, when ptotic, an opportunity to become firmly fixed in their new positions.

Having discussed my technic of simple or ordinary colopexy, I will now describe some new and original methods of performing colopexy for the relief of intestinal ptosis which have proven very satisfactory in my hands and which I recommend as being worthy of your consideration.

Gant's Colopexy, with the Formation of an Extra Loop in the Descending Colon. When the bowel or its mesentery is very long and from fifteen to twenty inches or more can be withdrawn through the incision, simple colopexy will not prove satisfactory, because the gut is so long that it might sag or become angulated or twisted when anchored. In order to overcome these difficulties I have several times succeeded in taking up the extra slack by gradually bending the descending colon and mesentery upon themselves and forming an extra loop by joining the two segments of gut with sutures, placed after the manner shown in the accompanying illustrations. The newly formed loop is then anchored to the abdominal wall after the manner already described. The essential points in this operation is to place the sutures in such a way *that they will not constrict* the mesenteric vessels *nor cause a sharp angulation* at the outer end of the loop. The results which have followed this operation (six cases) have been very satisfactory.

GANT'S COLOPEXY, WHERE THE BOWEL IS SUSPENDED ABOVE THE RECTUS MUSCLE.

I have succeeded in relieving three patients who suffered greatly from marked dilatation and

ptosis of the left half of the colon by suspending it above the rectus muscle.

The technic of this procedure consists in opening the anterior sheath of the left rectus and dividing the muscle and posterior sheath transversely. An opening is then made in the colonic mesentery at its juncture with the bowel, care being taken to avoid injury to its vessels. The divided muscle and tongue-like piece of the posterior sheath are now pushed through the rent and sutured to the other end of the divided rectus. The stitches in the muscle and sheath are placed at some distance from the cut ends to prevent their cutting out. Finally, after the structures about the bowel have been snugly joined about it, the anterior sheath and skin are approximated, using a continuous intercutaneous catgut suture for the latter and hardened catgut for the former.

Gant's Circular Colopexy. Another method which I have found effective in overcoming colonic ptosis due to a considerably elongated sigmoid and descending colon is to anchor the bowel to the anterior abdominal wall in a circular fashion by placing the first group of sutures at the beginning of the sigmoid, the second in the median line at or above the umbilicus, the third midway between this point and the right anterior spine of the ileum and the fourth in the median line slightly above the pubes. The size of the circle is made larger or smaller and the number of fixations are varied according to the extent of the ptotic bowel to be disposed of.

One who is not familiar with the question of colopexy would naturally believe that fixation of the bowel to the anterior abdominal wall in the ways described would intercept the fecal current, but surgeons familiar with this procedure know that, on the contrary, it greatly facilitates the evacuations by preventing invagination, twisting and acute angulation of the gut.

On a few occasions I have stitched the bowel to the lateral and posterior walls of the abdomen to straighten out twists and kinks and to overcome ptosis, but have not found this method desirable because it was more difficult and the results no better than when the colon was anchored to the anterior abdominal parietes.

The technic of *cecopexy* and *sigmoidopexy*, as performed for the relief of enteroptosis, alone or complicated by chronic invagination, is similar in every way to that of colopexy, and because of this I will not separately describe their operative technic.

Gant's Colopexy, with Exclusion. On a few occasions, where the colon was of unusual length and collapsed to such an extent as to render fix-

tion to the abdominal wall impossible without leaving sagging parts to collect the feces and continue the obstipation, I have resorted to the following procedure: After the colon had been anchored at one point in the median line, to prevent it from dropping downward and pressing upon the intestine elsewhere or interfering with other organs, I have excluded the suspended portion by making an anastomosis between the most dependent points of the anchored bowel on either side of its fixed point, so that the fecal current could pass directly from the segment above into that below, without the necessity of passing through the anchored piece of gut. When the excess of intestine is very great, the bowel may be anchored at two places a few inches apart and then the innermost borders of the two suspended loops approximated at a point below the intermediate or swinging segment of bowel between them. These procedures are particularly indicated where there is aggravated colonic ptosis complicated by dilation and pronounced atony of the gut.

Gant's Colopexy, with Invagination. Still another procedure which I have resorted to in order to take care of excessive or sagging portions of the bowel after fixing it to the abdominal wall to prevent it from wandering is the following: After having scarified the peritoneal surface at as many points as may be required, the upper part of the drooping segment is pushed into the lower and fastened there by a continuous Lembert seromuscular suture, which approximates the serosa of the invaginans and the invagination and retains them in position until they have become agglutinated. This procedure has served its purpose very well in the two cases in which it was adopted. From my observation in these cases and my experience in the treatment of patients suffering from chronic iliocecal invagination and invagination of the sigmoid flexure, I am inclined to the belief that dangerous or troublesome complications need not be anticipated on account of the invagination of the gut produced in the above manner, because there is no acute inflammatory process present.

Gant's Phrenocolopexy, with Automatic Massage. On several occasions while operating upon enteroptotic patients I have suddenly come upon the diaphragm and have studied with much interest the character of its movements. That it must stimulate peristalsis, up to a certain degree, through its influence upon the transverse colon, I feel convinced, and on more than one occasion I have been tempted to anchor the ptotic colon to the diaphragm (phrenocolopexy), in order that the bowel might be prevented from wandering

and at the same time receive *automatic massage* through the respiratory movements, but have refrained from doing so except in one instance because of the unpleasant disturbances which might ensue through the effect of the attached gut to the diaphragm upon the respiratory and cardiac functions.

Colopexy can be quickly and easily performed under favorable circumstances, but when the entire colon has collapsed, is pressed upon by other organs, thrown into angulations or twists, or is bound down by numerous strong adhesions, considerable ingenuity and patience are required to bring the operation to a successful issue without doing serious injury to the bowel or adjacent organs. I have found it advisable to abandon colopexy on a few occasions because of the difficulties encountered and to resort to *colopexostomy*, *intestinal exclusion* or *resection*, in order to relieve the patient of persistent obstipation and other distressing manifestations induced by intestinal ptosis.

(b) *Colopexostomy*. Occasionally extensive colonic and sigmoidal displacements are complicated by a growth, intestinal catarrh, specific ulceration, or extensive adhesions, or complete rectal prolapse, which keep the patient in a most deplorable condition. Under such circumstances colopexy alone will prove unsatisfactory, because it does not provide means for healing the mucosa or removing the obstruction, and is often followed by a return of the invagination or prolapse, owing to the relaxation of the tissues and the straining incident to defecation. In view of these conditions, colopexostomy or resection, combined with appendicostomy or cecostomy, when indicated, should be performed in order that the growth or ptotic segment of gut may be removed and the bowel given a rest as well as the benefit of through-and-through medicated irrigation.

In performing colopexostomy I open the abdomen through the left rectus muscle on a level with the usual colostomy incision. I then hook up the sigmoid and draw it from above until taut and from below until all the slack is taken out, and then anchor it as in colopexy to the abdominal wall two inches above and below the angles of the incision. Finally, the operation is completed by stitching the inner surfaces of the projecting loop together and then uniting the bowel to the skin all around with plain gut. Except when dangerous symptoms arise on account of distension, the intestine is not amputated for several days, in order to minimize the danger of infecting the wound. When the catarrhal condition or ulcerative process has subsided, the artificial

anus is closed by end-to-end sutures or lateral anastomosis.

Where there is ulceration or catarrh of the bowel which requires local treatment, and the ptosis can be controlled by one or more fixations, I prefer appendicostomy or my cecostomy to colopexostomy because the annoyance of an artificial anus and a second operation to close it are avoided.

(c) *Intestinal Exclusion*. When the colon is ptotic and enormously dilated, angulated, twisted or bound down by adhesions, rendering it unfit for fixation, exclusion of all or part of the colon yields remarkably good results.

Intestinal exclusion should supersede both colostomy and colopexostomy in this class of cases, because it affords the desired relief and the patient is not annoyed by an artificial anus. Under such circumstances I have obtained good results by dividing the ileum six inches above the cecum, inverting and closing both ends by pursestring sutures, and then making an anastomosis between the proximal end of the ileum and the lower sigmoid or upper rectum. When the ptotic condition of the bowel is complicated by simple catarrh or ulcerative colitis, provision for through-and-through irrigation is made by performing appendicostomy or cecostomy.

Where the cecum and descending colon are down and fixation is impracticable, the ileum may be joined to the transverse or descending colon or lower down; but when the transverse colon, splenic flexure, descending colon and sigmoid flexure are involved and incapacitated, ileorectostomy (proctostomy) is indicated.

Evacuations are more regular after partial colonic exclusion, and are very soft and frequent immediately following complete exclusion, but as time passes the ileum takes upon itself the work of the colon, and the movements gradually diminish in frequency and again become normal in number and consistency.

My technic of intestinal exclusion has been given elsewhere by me and need not be repeated here.

(d) *Resection*. Removal of a part or all of the colon is justifiable in the treatment of enteroptosis causing obstipation when the bowel is the seat of malignant disease, is very long, dilated or would sag, become angulated or twisted, or be pressed upon by other organs, in spite of being anchored at one or more points. Resection is also indicated in ptotic subjects where the bowel is displaced and extensively ulcerated, is blocked by benign or malignant growths or permanently incapacitated by the presence of kinks, twists, adhesions or other pathologic conditions. In such

deplorable cases the gut should be severed above and below the useless segment and the disconnected ends united by end-to-end or lateral anastomosis, after the diseased portion has been removed.

When the entire colon is permanently incapacitated, it is advisable to resect it and anastomose the ileum with the rectum or lower sigmoid. Lane has excised all or part of the colon for the relief of obstipation and auto-intoxication thirty-nine times, with four deaths, and the results obtained were very satisfactory.

My experience with resection of the colon has demonstrated that it makes very little difference whether ten or thirty inches of the colon are removed, insofar as the mortality and the usefulness of the bowel are concerned. The writer believes that partial or even complete resection of the colon is justified in the treatment of this type of constipation in extreme cases where all other measures have failed to afford relief, but he does not believe that the indications for this procedure occur as frequently as the writings of Lane would lead us to believe.

(e) *Mesocoloplication (Mesocolopexy)*. The good results obtained by surgeons in preventing the recurrence of invagination of the bowel by plicating the mesentery and shortening of the lesser omentum with the gastrophaptic and gastrosplenic ligaments in gastropstosis, lead surgeons to attempt the cure of intestinal ptosis by shortening the mesocolon.

Mesocolopexy has been performed successfully once by Bier, twice by Hirschmann and six times by the writer. In my series of cases the operation was performed for the relief of colonic or sigmoidal ptosis alone or when complicated by invagination of the sigmoid flexure into the rectum, or complete rectal procidentia. In one case I was enabled to completely overcome the displacement and invagination and relieve my patient by mesosigmoidopexy. In another this procedure failed, and I was compelled later to do an anterior fixation of the colon. In my more recent cases I have done a combined operation, which consists in first shortening the mesocolon by plication and then anchoring the colon or the sigmoid to the abdominal wall, which had been previously denuded of its peritoneum.

The technic of mesocolopexy is similar to that employed for shortening the ligaments of the liver, spleen and stomach. In doing this operation it is of the utmost importance to see that the stitches are placed parallel with or between the vessels, because when these are crossed by the sutures the patient will suffer from post-operative meteorism or sloughing of the intestine through

impairment to its circulation. Care is likewise needed to avoid injury to the veins, else a hematoma will form or great difficulty will be encountered in controlling hemorrhage.

Mesosigmoidopexy was performed by Bier for the purpose of overcoming colonic ptosis, and Hirschmann operated to afford his patients relief from rectal procidentia (third degree). Hirschmann scarifies the outer surface of the mesentery of the large sigmoidal loop and then sutures the opposing surfaces in three rows one inch apart with No. 2 twenty-day catgut. This causes a lifting upward of the sigmoid and prolapsed rectum as the stitches are tied. He also infolds the anterior surface of the sigmoid, a procedure which, insofar as I can see, requires an additional amount of time, but does nothing towards preventing the downward displacement of the bowel. My experience with mesocolopexy warrants me in believing that this operation will not prove effective in the majority of instances when used alone, but that it is an aid in the treatment of enteroptosis and invagination when combined with colopexy and sigmoidopexy.

Treatment of Intestinal Ptosis Complicated by Rectal Procidentia. Colopexy and sigmoidopexy will bring about a cure when the invagination and prolapse are not extensive, but when the intestine or its mesentery is exceedingly long or its attachments have given way the sigmoid becomes invaginated, and the rectum protrudes for several inches beyond the anus, resection, colopexostomy or the *writer's combined operation* should be resorted to in order to affect a permanent cure.

Gant's Combined Sigmoidopexy Cauterization and Proctoplasty. This operation has for its object abdominal fixation of the bowel, the setting up of an inflammatory reaction which will cause the bowel coats to become adherent to each other, narrowing the rectum, and shortening the sphincter muscle. The procedure is easy to carry out and is practically devoid of danger.

The *first step* in the operation consists in doing a sigmoidopexy after the plan described elsewhere; the *second*, in thoroughly cauterizing the lower sigmoid and upper rectum through a proctoscope or by the aid of an operating speculum; the *third*, in removing a diamond shaped piece of flesh which includes a strip of bowel, a section of the sphincter one inch in width and the skin and subcutaneous tissue backward almost to the coccyx; the *fourth*, in providing drainage and closing the wound with chromicized gut, and the *fifth* in applying the dressing.

I have performed this operation many times (twelve) and have had but one relapse.

Excision of the prolapsed piece of gut for the

relief of rectal procidentia is not a satisfactory operation, because it is difficult and dangerous, requires considerable time, is accompanied by profuse bleeding, does not prevent the slipping downward of the segment of bowel immediately above that removed, and is often followed by undesirable sequelæ. Recurrence is more frequent after excision than after the combined operation just described.

I have elsewhere described several other operations devised for the cure of simple prolapse of the rectum, which I will not discuss here because they are useless insofar as the treatment of intestinal ptosis and the constipation dependent upon it are concerned.

In concluding my remarks on the surgical treatment of constipation due to intestinal ptosis I wish to state that my large experience with coloproxy and the operations discussed has been so satisfactory in the treatment of this class of cases that I most heartily recommend them to your careful consideration.

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STUDIES IN ISOAGGLUTININS AND ISOHEMOLYSINS.

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[Abstract of paper presented before the Sixty-fourth Annual Meeting of the Ohio State Medical Association, May 5, 6, 7, 1909, Cincinnati.]

The isoagglutinating and isohemolytic power of the serum was studied in 213 individuals, of whom 97 were healthy and 116 diseased. The tests consisted in combining equal quantities of serum and a 5 per cent suspension of corpuscles, usually one-fourth or one-half amounts, placing them in the thermostat at $37\frac{1}{2}$ degree C. for two hours and then allowing them to stand in the ice chest over night, at which time the final readings were made. About half of the examinations were made on groups of eight individuals at a time, the remainder were made on groups of twenty individuals, and the serum of each was tested against the corpuscles of every member of the series. The presence or absence of autoagglutination and autohemolysis was always noted.

The serum of patients was usually tested against the corpuscles of a number of normal individuals and similarly the serum of normal

individuals was tested against the corpuscles of a number of patients.

Among the patients tested, those suffering from tuberculosis and carcinoma made up the largest groups; included in the series, however, were a number of cases of typhoid fever, nephritis, diabetes mellitus, pernicious anemia, lues and other diseases.

The results showed that normal serum was able to hemolyse and agglutinate patients' corpuscles as often as patients' serum was able to hemolyse or agglutinate normal corpuscles, and furthermore that autoagglutination did not occur in a single instance, while autolysis occurred only once.¹

In order to complete this study it was necessary to test the action of patients' serum on the corpuscles of other patients and the action of normal serum on the corpuscles of other normal subjects. For this purpose two series of nineteen patients each, suffering from a variety of diseases, were taken and the serum of each member was tested against the corpuscles of every other member, and similarly three series of nineteen and twenty healthy subjects tested.

Of the thirty-eight patients so tested, the serum of thirty-five (92 per cent) caused agglutination and nine (26 per cent) caused hemolysis, as compared with fifty-nine normal sera of which fifty-three (89 per cent) caused agglutination and fourteen (23 per cent) caused hemolysis.

From the above results we can conclude, in agreement with Landsteiner, Halban, Hektoen and others, and in opposition to Maragliano, Lemonaco and Panichi, Ascoli, Crile and others, that the isohemolytic and isoagglutinating reaction of the serum has no diagnostic significance.

Landsteiner (Ueber Agglutinationserscheinungen normalen menschlichen Blutes. Wiener klin. Woch., 1901, XIV, 1132) attempted a classification of individuals according to the isoagglutination reaction of their blood. His classification, which has been generally accepted, up to this time, makes three groups, as follows: "In a number of cases (Group A) the serum agglutinates the corpuscles of another group (B), not, however those of Group A: while the corpuscles of A are agglutinated by the serum of B. In the third Group (C) the serum agglutinates the corpuscles of A and B."

This classification has been found to be im-

1. This single instance of autolysis was in the case of the blood of a chronic nephritis patient who was in uremia at the time the test was made and may have been due to some toxin other than a specific amboceptor-complement combination.

perfect and therefore I sought a classification which would cover all cases and to which there would be no exceptions. I found that such a classification required a separation into four groups, and I propose the following to which I have found no exception in the last 1600 tests:

Group I—Sera agglutinate no corpuscles. Corpuscles agglutinated by sera of Groups II, III, IV.

Group II—Sera agglutinate corpuscles of Groups I, III. Corpuscles agglutinated by sera of Groups III, IV.

Group III—Sera agglutinate corpuscles of Groups I, II. Corpuscles agglutinated by sera of Groups II, IV.

Group IV—Sera agglutinate corpuscles of Groups I, II, III. Corpuscles agglutinated by no serum.

It has been suggested that isogglutination and isohemolysis may present a possible danger in the transfusion of blood from one individual to another. Reference to the above classification indicates that so far as agglutination is concerned, it probably would be safe to transfuse between members of any one group; at least we can say that agglutination outside the body does not take place when the serum of any member of a group is added to the corpuscles of another member of the same group. If agglutination does constitute a source of danger in transfusion, one can see that a risk is run if one undertakes to transfuse from a member of one group to any member of another group, and that the risk is a double one when transfusion takes place between Groups II and III, since then the serum of both donor and donee is capable of agglutinating the corpuscles of the other.

Landsteiner considered that there were two kinds of isoagglutinin in human sera, the one in his Group A, the other in Group B, and both in Group C. In order to account for the occurrence of the four groups which I have proposed it is necessary to postulate three kinds of agglutinin and three kinds of agglutininophilic receptors; and their distribution may follow one of two possibilities. In the following schemata I have represented the agglutinin by capital letters and the receptors by small letters, intending to indicate an affinity between agglutinin and receptors of like letters.

FIRST POSSIBILITY.

Group I—Serum contains no agglutinin. Corpuscles possess receptors a.

Group II—Serum contains agglutinin A—C. Corpuscles possess receptors b.

Group III—Serum contains agglutinin A+B. Corpuscles possess receptors c.

Group IV—Serum contains agglutinin A+B+C. Corpuscles possess no receptors.

SECOND POSSIBILITY.

Group I—Serum contains no agglutinin. Corpuscles possess receptors a+b+c.

Group II—Serum contains agglutinin A. Corpuscles possess receptors b+c.

Group III—Serum contains agglutinin B. Corpuscles possess receptors a+c.

Group IV—Serum contains agglutinin C. Corpuscles possess no receptors.

Absorption experiments which I have carried out indicate that the second rather than the first possibility represents the actual distribution, but I wish to repeat these experiments a number of times before affirming that the explanation given is correct.

In regard to the relationship between isoagglutinins and iso-hemolysins, I may say that agglutination frequently occurs independently of hemolysis, but that the inverse relation occurs, i. e., hemolysis without simultaneous or preceding agglutination seems less likely. Of course we are referring to hemolysis caused by a specific amboceptor-complement combination.

I have not been able to classify individuals according to the isohemolytic reaction of the blood, but certain facts of interest were observed.

As indicated above, the occurrence of isoagglutinins in man is much more frequent than the occurrence of isohemolysins. In 100 individuals tested, 61 of whom were healthy and 39 suffering from various diseases, isoagglutinins were found in 92 cases and isohemolysins in 25 cases.

Referring to the classification according to isoagglutinins, isohemolysins have not been found in Group I, that is in those individuals whose serum contains no isoagglutinin, but have been found in each of the other three groups. Moreover, the same statement apparently applies to isohemolysins as was made in regard to isoagglutinins; namely, that the serum of an individual of one group may hemolyse the corpuscles of members of other groups, but not those of a member of the same group. The corpuscles of Group IV, which are insusceptible to isoagglutinin are likewise insusceptible to isohemolysin. In the 100 individuals tested in groups of twenty, I have found only two exceptions to this rule, and it seems likely that the hemolysis in these two cases may have been due to accidental causes.

A further fact of considerable theoretical interest and of practical importance in its bearing on the question of transfusion in man was discovered.

Given an individual A whose serum is capable of hemolysing the corpuscles of another individ-

ual B, in the test tube, the hemolysis is prevented if the serum of B is added to the serum of A before it is allowed to act on the corpuscles B. For this experiment it is best to mix the two sera and allow them to remain in the thermostat for one-half hour before adding the corpuscles, but even when the corpuscles are added immediately the inhibition is partial even if not complete.

It was further found that the serum of any member of the same group as that to which the individual furnishing the corpuscles belonged would also exert an inhibiting action Ascoli (*Isoagglutinine und Isoly sine menschlicher Blutsera*. Münch. Med. Woch., 1901, Vol. 48, No. 31, p. 1239), was able to show in a certain number of cases that the isolytic action was due to two bodies, one thermostable (amboceptor) the other thermolabile (complement). This he proved by the usual method of heating the hemolytic serum to 56 degrees C. for 20 minutes and showing that it had lost its ability to cause solution of the red blood corpuscles, but that this power could be restored by the addition of the fresh serum of another individual, which serum alone was incapable of producing hemolysis. Ascoli states that in a certain number of cases he was able to accomplish this reactivation, but in others the reactivation failed for reasons which remained to him inexplicable. I have confirmed Ascoli's statements regarding the amboceptor-complement nature of isohemolysin and of their relations to heat, and in the light of the statements I have just made, it seems probable that in the cases where Ascoli was unable to reactivate his hemolytic sera after heating, that he may have been using for the reactivating serum, the blood of an individual belonging to the same group as the individual from whom the corpuscles were taken and that the reactivation failed, not through any lack of complement, but on account of the presence of inhibiting bodies in such a serum.

In order to reactivate a given hemolytic serum one may best employ the serum (non-hemolytic) of a number of the same group as that to which the hemolytic serum belongs.

I have tested this property of the serum to inhibit the hemolysis of the homologous corpuscles, or the corpuscles of any number of the same group and found that it resists heating 57 degrees C. for one-half hour and is therefore thermostable.

I have next attempted to discover the point of action of this inhibiting body. Theoretically such a body might act by combining with: (1) the

receptor group of the cells; (2) the cytophile group of the amboceptor; (3) the complementophile group of the amboceptor; (4) with the complement.

The first possibility, blocking of the receptor of the cell, can be ruled out at once, for if this occurred, cells first treated with the inhibiting serum and then removed by centrifugalization and washed would not be dissolved on the subsequent addition of a hemolytic serum. We know that the serum of any individual protects its own corpuscles from hemolysis by any other serum but as soon as the corpuscles are removed from their own serum they may be dissolved by other hemolytic sera, showing that their receptors are free.

To determine which if either group of the amboceptor had been blocked, that is if the anti-hemolysis is an antiamboceptor, we may proceed as follows: To susceptible corpuscles add inactivated hemolytic serum and inactivated protective serum. After these have stood together for a while in the thermostat remove the corpuscles and wash them. Now if the cytophile group of the amboceptor has been blocked the receptor group of the corpuscles will remain free and they may be hemolysed by the addition of fresh hemolytic serum, but not on the addition of complement alone; but if the complementophile group of the amboceptor has been blocked the cells may have anchored the amboceptor—anti-amboceptor combination and hence will not be hemolysed on the addition even of fresh hemolytic serum. If the inhibiting body is an anti-complement, the cells after removal and washing should be hemolysed on the addition of complement alone. In order to determine this point I selected an individual C from Group IV, whose serum was hemolytic for the corpuscles of an individual A of Group I. Equal quantities of C's serum and A's serum were inactivated and added to A's corpuscles. After the mixture had stood for an hour in the thermostat at 37½ degree C. the corpuscles were removed by centrifugalization, washed, suspended in a small amount of salt solution and to one portion, complement alone was added (serum D Gr. IV, which had been shown to possess no hemolysin) and to another portion of the corpuscles fresh serum from C was added. Those corpuscles to which complement alone was added were not affected, while those to which hemolysin was added underwent prompt solution showing that the anti-hemolysin is an anti-amboceptor which acts by blocking the cytophile group of the amboceptor.

At present I am only prepared to speculate as to the origin and nature of this anti-hemolysin.

Müller (Ueber die Erzeugung Hämolytischer Amboceptoren durch serum injection Münch. Med. Woch., 1902, XLIX, no. 32, p. 1330) refers to the work of Morgenroth in which he showed that by the injection of serum one could call forth the production of hemolytic amboceptors which are identical with those resulting from the injection of blood. Müller refers to his own earlier work in which he showed that a whole series of normal sera possess anti-hemolytic properties directed against the hemolysins contained in normal sera from other species of animals. He proceeded to inject sera containing anti-hemolysin in an effort to produce an antihemolysin, and thought at first that he had succeeded in accomplishing this, but closer scrutiny showed that he had merely produced a hemolytic serum. By injecting guinea-pig serum into another animal he obtained a serum capable of dissolving guinea-pig corpuscles. His explanation of the fact that the injection of serum alone is able to produce a hemolysin is that the serum must contain groups identical with the receptor groups of the corpuscles, and he further suggests that if the serum contains groups identical with the receptor groups of the corpuscles, such a serum should be able to bind the hemolysin and thus protect the corpuscles from hemolysis. I arrived at the same conclusion regarding the nature of the anti-hemolysin directed against isohemolysin which I observed.

CONCLUSIONS.

1. Isoagglutinins occur in about 90 per cent of human sera, while isohemolysins occur in about 25 per cent. of human sera.
2. There is no marked difference in the frequency of the occurrence of isoagglutinins and isohemolysins in health and disease, therefore they have no diagnostic significance.
3. Individuals can be classified in four groups according to the isoagglutination reaction of their blood.
4. By means of this classification a donor may be selected, in case of transfusion, whose serum will not agglutinate or hemolyse the corpuscles of the donee and whose corpuscles will not be agglutinated or hemolysed by the serum of the donee in vitro and presumably not in vivo.
5. The serum of every individual contains an antihemolysin which will protect its own corpuscles and those of any member of the same group from isohemolysis.
6. This antihemolysin is thermostable (resists heating for one-half hour to 56 degrees C.) and acts by uniting with the cytophile group of the amboceptor.
7. This antiamboceptor probably represents the

cast off agglutinophilic receptors of the red-blood cells; that is to say, the chemical group of the red-blood cells with which the hemolysin combines. These groups may circulate in the serum after the physiological or pathological destruction of the corpuscle.

THE DANGER OF INFECTION IN TUBERCULOSIS FROM BOVINE SOURCES, WITH ESPECIAL REFERENCE TO THE SITUATION IN OHIO.

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[Read before the Ohio State Medical Association.]

When 1898 Theobald Smith first called attention to his discovery of certain constant differences observed in tubercle bacilli obtained from bovine and human sources, the question was at once raised as to whether the disease was really intercommunicable between the species, as had been till then generally conceded, or whether man was safe from attacks from bovine organism. In 1901, Koch, in his memorable address, made the statement that human tuberculosis could not be transmitted to cattle; and the converse, if true, was of so rare occurrence that it could be practically neglected in the struggle against disease. This statement from so eminent an authority was so striking that a new impetus was given to the work of corroboration or refutation. The importance of the question was so great that in England and Germany royal commissions were appointed to carry on the investigations, and today the report of the English Commission stands as the most comprehensive piece of literature that we have on the subject.

In this country, Theobald Smith, continuing his studies, corroborated his own former work. Ravenel and his co-workers, as well as a large number of independent investigators, found very striking and constant differences in the organisms obtained from bovine and human sources. These differences were morphological and tictorial; but far more striking was the difference in virulence; cultures from bovine sources showing vastly greater pathogenic power for all laboratory animals, except guinea pigs and swine. These proved so susceptible to both races of bacilli that no difference could be detected.

Having established criteria by which to judge their work and to recognize the strains with which they were dealing, the interest in their studies centered on isolating, if possible, cultures

from human sources which presented the characteristics of those from bovine sources, or, in event of failure, thus satisfying themselves that such never occur.

Manifestly, if bovine tuberculosis would be found of interest to the general public, it would be because of the danger of infection through the consumption of milk. Consequently the search was made in cases which from their history or clinical course suggested that they might have been the causes of primary intestinal infection. The question of primary intestinal tuberculosis will be spoken of later in this paper, but, for the time being, it is sufficient to say that such cases were not wanting; in many instances, in the work of several investigators, organisms were isolated which not only presented all of the characteristics of the bovine type, but were constantly pathogenic for young cattle. It was found, incidentally, that the human organism, unless of unusual virulence or used in immense numbers, produced no disease in cattle except occasionally a strictly localized process. While bacilli of the bovine type almost invariably produced death in young cattle in from seventeen to sixty days. The tuberculous process following these inoculation experiments was always found to be most widely spread and of great severity. The disease thus artificially induced shows a very striking difference from the ordinary course of the disease in cattle. Cattle often living and presenting all of the appearances of health for many years after having become infected with the disease in the ordinary way.

Ravenel first succeeded in this in 1901. The culture he obtained was isolated from the mesenteric glands of a child who died of tuberculous meningitis following what appeared to be a primary intestinal infection. It showed all the characteristics of the bovine bacilli, killing cattle rapidly. He reported in September of last year two other cultures showing the same virulence for cattle. Both of these were isolated from children. In a recent personal communication he speaks of "having repeated these findings several times." DeSchweinitz has succeeded three times. Theobald Smith, once. Mohler, once, and many others, once or more times. The English Commission, spoken of before, found bacilli, of the bovine type, in 23% of the cultures studied, and the German Commission, 10%. Incidentally, all but one of the strains found by the English Commission were from causes which had histories pointing to intestinal infection.

It is a point of great interest and importance that in nearly every instance, in which the bo-

vine organism was found, it was in the case of young children.

Recent studies have emphasized the great difference in the pathology of tuberculosis in early life from that of adult life. Under ordinary condition of virulence, tuberculosis of infancy and childhood is a disease of the lymph-nodes. Tuberculous adenitis represents the chronic disease in childhood just as phthisis represents the chronic form in the adult. While this glandular type of disease is regarded by many as an evidence of latency, it is significant that careful autopsy statistics reveal no evidence of any tendency toward healing during the first two years of life. When the infection is severe, either in virulence or numbers, or if the protective barriers of the lymph-nodes are broken down, the disease tends to become generalized and such cases progress with great rapidity.

It is safe to assume that under ordinary conditions, infected milk will contain relatively few tubercle bacilli; so that in the adult the protective agencies are sufficient to overcome the scattering assaults of bacilli thus introduced into the system. With infants and young children the case is different. The texture of the intestinal mucosa is much looser than in adult life and the repeated attacks of enteritis, and other intestinal disturbances to which they are subject, results in lower vitality of the structure; abrasions are common and the permeability of the mucosa to the organism is greatly increased. Now, when we realize the great virulence of the bovine bacillus as compared to the human bacillus, it is easy to understand how it is that, though relatively few organisms may be introduced with the milk, the chances of a serious infection are greatly enhanced in the case of young children.

Primary intestinal infection in adults is an occurrence of such relative rarity, that to me, it seems that it may be practically ignored in our consideration of the subject; but it becomes a matter of great importance when we consider its occurrence in children. Regarding the frequency of its occurrence statistics vary greatly. Some observers go to the point of practically denying its occurrence. Koch considers primary intestinal tuberculosis very rare, having collected only twenty-eight cases which he is willing to admit as such. But before accepting a case, as being due to food, he demands a chain of evidence which it is practically impossible to obtain. English pathologists, on the other hand, are almost unanimous in believing that infection through the intestines is of frequent occurrence. In one series comprising 1560 autopsies on children dying of

tuberculosis the primary lesion was found in the intestines 299 times, or 18 6/10% of the cases.

In this country, (1) Northrup, Holt, and Bovard report on 369 cases from the vicinity of New York in which only five (1 3/10%) were found; and Hand (2) reports from the Children's Hospital of Philadelphia 115 autopsies with ten cases (8 7/10%) of primary intestinal localization.

As we mentioned earlier in this paper, the process in the fatal cases tends to become so generalized that it is very often entirely impossible to determine the original focus of the disease. When death occurs from other causes the tuberculous process is usually localized and often confined to the glands in the immediate relation to the point of invasion, hence the portal of entry can be determined with great accuracy. In this connection the work of (3) Councilman, Mallory, and Pearce is instructive. They found tuberculosis in 35 of 220 children dead of diphtheria. In eighteen of these the mesenteric lymph nodes were tuberculous, involving the intestines six times; and in seven cases the mesenteric glands were diseased without involvement of any other part of the body. In thirteen cases (37%) the infection was evidently in the intestinal track.

In Germany, Heller (4) obtained practically the same findings working in the same class of cases. Among 714 cases of diphtheria he found tuberculosis 140 times. In fifty-three (37 8/10%) the origin was primarily in the intestines. Many other investigators make reports similar to these, but with wide variations in their findings. These variations may be due to differences in customs and environments of the material from which the cases were drawn, as well as personal difference in interpretation of what was found. The total, however, is not large when we consider the enormous death rate from tuberculosis. Ravenel, who is one of the leading supporters of the idea of infection from this source in this country, believes it "unfair to consider as cases of primary intestinal infection only those in which the primary lesion is found in the intestines or mesenteric glands." His feeding experiments indicate that bacilli rapidly find their way from the intestines to the thoracic duct and, in a measure, support the views of Calmette and his students.

It is not my purpose to enter into an academic discussion of the pathology of these cases or the portal of entry, but rather, to briefly call attention to the practical side of the question.

It has been maintained and is yet by many, that even though a cow be tuberculous, as evidenced by the tuberculin reaction, if there be no lesion of the udder or lacteals, the milk will not contain

bacilli and consequently cannot be considered as a carrier of infection. This view has been positively disproven by a large number of workers. The organisms have been repeatedly found by microscopical examination of the milk. They have been isolated by cultural inoculations, made directly from the milk. The disease has been produced in guinea pigs and other laboratory animals by inoculation with milk. Ravenel experimented with five cows which showed no physical signs of tuberculosis and had healthy udders, but reacted to tuberculin. The milk of these cows was inoculated into guinea pigs, of which 18 7/10% became infected by a single dose of the milk. H. C. Ernst, investigating the milk from tuberculous cows, with healthy udders, found bacilli in the milk of twelve out of thirty-six cows by cover-glass examinations. He produced tuberculosis in guinea pigs by inoculating with the milk from six of fourteen such cows (42.8%). These are but two of many whose work might be quoted, but they furnish sufficient evidence for the point in question. If there is no lesion of the milk-producing apparatus, how do the organisms get into the milk? One word answers the question, *dirt*, contamination with the fecal matter from the cows themselves. Dirt and dust which sift and rattle into the milk after it is drawn. It is a well-known fact that cows seldom, if ever, expectorate. The sputum is all swallowed and thus the intestinal contents become the carriers of the organisms. Numerous inoculation experiments made with fecal matter have demonstrated the presence of organisms in almost every instance in which their presence was suspected because of disease in the animal. It can be readily seen how the bacilli will pass in this manner to the milk when we consider how frequently milk is found to be contaminated by fecal matter. The work which has been done with regard to the milk supply of Washington, D. C., by the Marine Hospital and Public Health Service, offers the most conclusive data which we have on the subject. Dr. Anderson, (6) of that corps, worked with the market milk taken from wagons. Out of 452 samples investigated, 242 contained (52%) visible dirt in varying quantities, which on microscopical examination was found to be straw, dust, seeds and fecal matter and, in one instance, anyway, mouse feces. "Comparatively few are absolutely clean." It is safe to assume that this represents the conditions in other cities as regards dirt. Dr. Horton, Health Officer of Columbus, writes, "of the milk retailed to our citizens, probably 50% can be said to be fairly free from visible dirt, but of the remaining only about 2%

may be called really bad." Dr. Anderson, continuing his work, made a search for virulent tubercle bacilli. He found them by means of inoculation in fifteen out of 272 samples taken at random. Or, to put in another form, milk from eleven out of 202 dairies contained virulent organisms in sufficient quantities to produce death in guinea pigs. Here again it is very doubtful if these figures represent anything like the real index, because the very large number of his animals died from sepsis too soon for tuberculosis to have developed. About 20% of the samples were thus disposed of. Then, too, only about 2 c. c. of milk was used and that from the lower portion, a very small part of a pint bottle. The result, however, is sufficiently high to indicate the positive danger that exists.

When I began the preparation of this paper I thought to be able to present some statistics which would indicate the relative frequency of tuberculosis in the herds of our own state. But it has been impossible to gain anything like even an approximate figure. Ohio ranks fifth among the states in live stock valuation and the annual appropriation for the work of the state veterinarian is only \$5,000. We share with Tennessee the rather doubtful honor of having the smallest appropriation for such purpose of any of the states of the Union. When it is remembered that this sum of money must be made to cover all of the expenses of that department, it becomes evident that it would be impossible to make anything like an adequate fight against this disease. As a matter of fact the state veterinarian or his assistant does test herds when asked to do so by the owner, providing the owner agrees to abide by the findings and the suggestions of the examining officer. Even this work has been done only in the past two years, but it is a matter of satisfaction that requests for such examinations are coming into the office in constantly increasing numbers. Last year thirty-two herds were tested as against sixteen of the year before. In all, 911 cattle were tested and of these 211, or 23½% reacted. The disease has been reported by local veterinarians from almost every county in the state. Dr. Lamb, assistant to the state veterinarian, tells me that he is confident that the disease exists in every county of the state and in many counties every township has its quota of cases; and that many counties are saturated with it. The northern and northeastern portions of the state being particularly adapted for dairying naturally furnish the greater number. An increasing interest is taken in breeding, and to this end a great many animals are brought into the

state from abroad. And just in proportion as this movement of animals takes place, either from herd to herd or from other states, the disease is on the increase. Until we can have adequate quarantine laws this condition of affairs must continue. To be sure, the knowledge and interest among the better class of dairymen is increasing as is evidenced by the increasing requests for tests. Many are demanding the test before admitting an animal to their herds, but a lamentable degree of ignorance still exists among the great mass of farmers. Oftentimes from ignorance there is a prejudice against the test because of a fear that the test will in some way harm a healthy animal. Cupidity and fear of pecuniary loss deter many more from its use. Ignorance on the part of the public as to the danger from this source begets complacency. Dr. McCann, of Dayton, reports an instance in which he found five persons in one family with advanced tuberculosis. He was told, with pride, that their milk supply was above reproach as they had their own cow. Dr. McCann found the cow to have a tuberculous thickening on the milk duct, and, after she reacted to tuberculin, had her killed when there was found masses of cheesy deposits in lungs and on the udder. This was a most exceptional case, it is true, but one which might have been prevented had the owner of the animal any conception of the possibilities of that bunch, which he admitted as having been there for some time. The health boards of most of our cities and larger towns are taking the matter up independently. Dr. Friederich, of Cleveland, is doing much good work to improve the milk supply of that city. The same is true in Cincinnati. I have been unable to get any statement as to the actual results of their work. Considerable work has been done in this way by the Board of Health in Columbus. During the past year 403 cattle were tested and 76 (19%) reacted. It is the manifest duty of the state to take this matter up. Much larger appropriations should be made for carrying on the work and rigorous quarantine laws should be enacted. Much good might be done by the Department of Agriculture by introducing a series of lectures into their regular work through the farmers' institutes. These lectures might, with advantage, be given by local physicians and should entail no great expense. It has occurred to me that this society might well work in conjunction with that department in some such arrangement. We physicians who have to do largely with the county people should lose no opportunity of warning the people of this danger and teaching them the truth regarding the dis-

ease. While in the whole matter of infection from tuberculosis, this source is probably responsible for a relatively small proportion of the cases, it is a source which can be, and should be, eliminated. We must not, however, lose sight in our search for the spectacular, of the dangers from the dirty consumptive. We must not forget that the child creeping about the floor, putting all kinds of articles into its mouth, is as apt to get an infection from that source as from milk. But we can insist on having milk delivered to us that is clean. The idea of fecal contamination disgusts our esthetic sense, to say nothing of the danger which it implies. This can largely be brought about by simple elementary cleanliness in the handling of milk and care of the cattle. The sides, flanks and udders should be clipped and the cows brushed off, and the udders washed and dried before milking. The milk should be drawn into covered receptacles. Leaving out the question the production of the so-called "certified milk," these simple measures, available to every farmer, will do much toward keeping the milk clean. When the people are educated to the point of demanding that the cattle, which furnish them milk, shall be tested regularly, selfish interest alone, on the part of the owners, will keep the disease at a minimum.

CONCLUSION. Bovine tuberculosis is transmissible to man. The usual portal of entry being through the intestinal tract, the danger of such infection is very much greater in the case of young children than in adults.

The tuberculous cow constantly passes virulent bacilli in the feces, and infection of milk ordinarily comes from this source.

Infection from this source can be largely reduced through the agency of education, both of the farmers and of the consumers of milk. The entire question becomes largely one of simple elemental cleanliness, honest and propriety; and when due regard is had for these three factors the danger of infection, through the milk supply, is largely eliminated, but such danger increases in proportion as these factors are ignored.

1-2-3-4. "The Etiology of Tuberculosis," Ravenel. American Jour. Med. Sciences, Oct., 1907.

5. Hygienic Laboratory Bulletin No. 41, page 165.

6. The same, page 395.

Hard foreign bodies in the nose may sometimes be removed, where other means fail, by wiping the cavity and foreign body dry and applying sealing wax attached to cotton.—American Journal of Surgery.

ECTOPIC GESTATION.

F. T. MARR, M. D.,
Chillicothe.

[Read before the Ohio State Medical Association.]

By extra uterine pregnancy we mean those instances in which the fertilized ovum is arrested somewhere in its course from the ovary to the uterus and there undergoes development.

The term ectopic gestation has a somewhat broader meaning than extra uterine pregnancy, and has reference to not only such cases as mentioned above, but also to those instances in which the pregnancy occurs in some abnormal diverticulum of the uterus or tubes.

Until as recently as 1883, the condition was of interest, chiefly from a pathological standpoint, and few or no cases were recognized clinically; but from that date, at which time Lawson Tait operated so successfully upon his first case of tubal pregnancy, the clinical interest in the affection has been markedly increased, as is shown by the decided increase in the literature on the subject, and apparent increase in the frequency of the condition.

FREQUENCY.

Before extra uterine pregnancy came to be recognized clinically and at autopsy, observers were much misled as to its frequency, and consequently such statements as made by Henning in 1876 to the effect that the affection is so rare that the directors of large obstetrical clinics might never see a case of it, were not at all to be wondered at. On the other hand, the statistics now available might readily influence one to suppose that the frequency has markedly increased since that time, but this is more apparent than real, and is only one more of the many instances to emphasize the more accurate diagnosis that is now marking every department of medicine. Thus, for example, Parry in 1876, was able to collect only 500 cases that had been reported up to that time, while in 1892, Shrenck collected 610 cases which had been reported in the five previous years.

ETIOLOGY.

Owing to the great importance of a careful consideration of all the possible etiological factors, in arriving at an early diagnosis, the various causes will be considered in detail.

So many theories have been advanced to explain the occurrence of extra uterine pregnancy that it is impossible to make any one very definite statement as to its causation. I will men-

tion a few of the more common theories that have been advanced, and I give you the ones laid down by J. Whitredge Williams and George Dobbin, who have made a most extensive and comprehensive study of this subject.

First.—Conditions which interfere mechanically with the downward passage of the ovum. (a) Peritoneal adhesions. This was probably the earliest recognized factor in the causation of this condition, and is still held by many to be the principal one; the adhesions act either by directly compressing the lumen of the tube, causing a barrier to the passage of the ovum, or by interfering with the contractile power of the walls of the tube. Both have been repeatedly verified at operation and autopsy.

(b) Tubal Polypi. These would act by projecting into the lumen of the tube and thus arresting the passage of the ovum. It is more than probable that the polypi are the result of decidual ingrowth and are caused rather by the condition itself than of being the causative agent in the production of tubal pregnancy.

(c) Tumors. These may either be growths in the walls of the tube itself or of adjacent organs and act by compressing the tube.

(d) Salpingitis. This suggestion, first offered to the profession by Schroeder and Tait, was erroneously misunderstood, for they believed the cilia of the mucosa normally exerted an inhibitory influence over the spermatozoon to the invasion of the tube, it being supposed by them that fecundation took place normally in the uterine cavity itself. The more modern view, however, that has been amply proven, is that fecundation normally takes place in the Fallopian tube, and the impregnated ovum is then wafted on into the uterine cavity by the cilia of the tubal mucosa, which, when destroyed, favors lodgment and growth of the fecundated ovum at the point of fecundation.

(e) Obstruction by Twin Ova. The comparative frequency of the co-existence of intra-uterine and extra-uterine pregnancy, has led certain investigators to suggest the possibility of the mutual interference of twin ova as a cause for tubal pregnancy.

(f) Foetal Twisting of the Tube. In the normal adult the Fallopian tube is a straight canal; in the foetus a convoluted one. Those that have advocated this view, have favored as a cause the persistence of these foetal convolutions.

(g) Diverticulum of the Tube. The impregnated ovum may lodge in a diverticulum out of the line of the current of the cilia and there continue in its development.

(h) External Migration of the Ovum. This is quite a common occurrence in extra uterine pregnancy and has been given as a cause of some investigators, they holding that the fertilized ovum in its transit through the peritoneal cavity attains such a size that its transmission through the opposite tube is an impossibility.

Second.—Abnormal conditions resulting from inflammatory diseases of the tubes, ovaries and pelvic peritoneum. Mention has already been made of the part of the absence of cilia is supposed to play in the causation of extra uterine pregnancy, and little need be added to this statement. Most cases of tubal pregnancy will reveal a history of pre-existing inflammatory trouble, and it is the rule to find some abnormality besides the pregnant tube at operation or autopsy. This has given rise to the statement that an inflammatory condition of the pelvic organs is the principal cause of extra uterine pregnancy, but unfortunately for the correctness of this statement, actual examination at operation or autopsy shows that such inflammatory condition is not present in all cases. On the other hand, the fact that tubal pregnancy does occur repeatedly in women suffering from gonorrhoea, certainly favors the above statement.

Third.—Physical and developmental conditions which favor decidua formation in the tubes. Of this cause little can be said.

Fourth.—Conditions of the ovum itself which may favor detention in the tube.

To sum up, it is therefore very evident that there is no lack of theories as to the causation of ectopic gestation, and after considering all theories, both pro and con, we had best close this portion of the subject by quoting Williams, who sums up as follows:

"The etiology of extra uterine pregnancy is not a simple matter, and there is no universal cause for all cases. Careful study of the specimen and of the patient's history, will give us a satisfactory explanation for the occurrence in the majority of cases, but in a small number of cases we cannot account for the production of the affection and its cause will remain to us as great a problem as to our predecessors."

CLASSIFICATION.

The fertilized ovum may be arrested at any point between the ovary and the uterus. We may thus distinguish between ovarian and tubal pregnancy, according as the development occurs in either of these organs. To these two forms, some add a third, namely, abdominal pregnancy; but there is considerable doubt as to whether a primary implantation ever takes place on the

peritoneum and thus give rise to this form of pregnancy.

First.—Ovarian Pregnancy. Many cases so described are not such, but that the condition exists cannot be denied. In order to differentiate it as such, the following conditions must be found: First, the tube on the affected side must be intact; second, the foetal sac must occupy the position of the ovary; third, it must be connected with the uterus by the utero-ovarian ligament; fourth, ovarian tissue must be demonstrated in its wall. In this form rupture may occur with the formation of a secondary abdominal pregnancy, or the case may go on to term, and one of the degenerative changes take place after death of the foetus.

Of tubal pregnancies we may differentiate the following varieties: Ampullar, isthmic and interstitial, the relative frequency being in the order named. Tait was of the opinion that tubal pregnancy always terminated in rupture into the peritoneal cavity; this has been proven erroneous. He also believed that it terminated about the twelfth week, but by far the greater majority terminate before the twelfth week and in what is known as tubal abortion. In rare instances the tube may accommodate itself to the condition and the foetus go on to term. About 70 per cent. end in tubal abortion, and in order to occur the fimbriated extremity must be open. Abortion, in a measure, is analogous to that taking place in the uterus. The liability to hemorrhage is greatly increased owing to the feeble development of the placenta. If the separation is complete we have a complete abortion, the entire mass being extruded into the abdominal cavity. If the separation is incomplete, we have incomplete abortion. If a portion of the placenta remains, hemorrhage continues and the ovum remains in the tube. If complete, the hemorrhage is very profuse, and if the ovum remains in the tube it may be converted into a fleshy mole. Rupture into the peritoneal cavity, as has been previously stated, is not so common as was thought by Tait. Rupture usually takes place about the twelfth week and usually at a distance from the fimbriated extremity and at the placental site. In some instances the period of rupture may be at a much later date. When rupture occurs into the peritoneal cavity, the entire ovum, as a rule, is expelled, but if the wound is a small one there may be profuse hemorrhage without the ovum being extruded. In either case the hemorrhage is profuse and the patient shows signs of collapse.

Rupture between the folds of the broad ligament takes place in a few cases, in the portion

of the tube not covered by peritoneum, and here the tube contents will pass down between the folds of the broad ligament. This is the most favorable termination and usually results in the death of the foetus and the formation of a harmless haematoma. Rarely it may pass on to term in this location. The gestation sack has been known to rupture again and a secondary abdominal pregnancy result.

A few cases have been reported where the debris has been discharged through bladder or rectum. These cases are due either to infection or pressure.

Fate of the Foetus: Attention has already been called to the fact that small embryo may undergo complete absorption, and one rarely finds trace of the foetal body in the blood clots that fill the abdominal cavity after rupture. Such a termination is impossible when the foetus has reached a certain size. It then undergoes one of the following changes: mummification, supuration, calcification conversion or into an adipocere.

Symptoms: The symptoms of an early unruptured tubal pregnancy are by no means characteristic and frequently one has no idea of its existence until rupture takes place and the patient is in a state of collapse. The patient usually considers that she is beginning an ordinary uterine pregnancy, and has the usual subjective symptoms of that condition. There is not uncommonly some pain in one or the other of the ovarian regions, but usually of so slight significance as not to alarm the patient or her friends. Menstrual suppression, while the usual rule, admits of a wide exception, as the menses persists in 43 per cent. of the cases.

If the foetus dies at an early period before rupture of the tube or before abortion occurs, there is usually a discharge of blood from the uterus. Right here we might emphasize the fact that menorrhagia in a patient who has been previously regular, should arouse our suspicion, and a careful examination of the pelvic organs be made. This one symptom has enabled the writer to diagnose two cases before rupture.

In the vast majority of cases, however, the first indication of abnormal conditions, is the occurrence of a sharp lancinating pain in one of ovarian regions, followed soon by signs of collapse. When collapse occurs it is usually the result of intra-abdominal hemorrhage, either from a rent in the tube wall, or from the fimbriated extremity after tubal abortion, and it can readily be seen that unless immediate operation is performed, collapse will become deeper and deeper and the individual finally bleed to death

into her own peritoneal cavity. In the minority of the cases the hemorrhage may not be extensive enough to prove fatal, and here the result will be a broad ligament hematoma. If the hemorrhage is severe, the symptoms are those of collapse. The intense, anxious, pinched appearance of the patient, weak, rapid pulse, subnormal temperature, pallor, etc., while in those cases where the hemorrhage is slight and followed by the formation of hematoma, a gradual improvement of the symptoms will follow. The present opinion is that the great majority of pelvic hematomata are the result of extra-uterine pregnancies. The formation of a hematoma is almost a favorable termination for this condition, for in this way the acute hemorrhage is checked. However, cases have been reported in which the hemorrhage at the center of the mass continues, finally causing secondary rupture into the general peritoneal cavity and death.

Occasionally, after rupture into the general peritoneal cavity, the patient does not succumb to the first loss of blood, and here if the placenta is not entirely separated from its attachment to the tube wall, a secondary abdominal pregnancy will result. In such a condition the pregnancy will continue with an abnormal amount of pain. In a small number of cases, where rupture has primarily taken place between the folds of the broad ligaments and secondary hemorrhage takes place into the general peritoneal cavity, the placenta may remain between the folds of the broad ligament while the foetus will continue to develop in the general peritoneal cavity. Where a patient with secondary abdominal pregnancy reaches term, what is known as false or spurious labor pains set in, during which there are distinct contractions similar to those occurring in the early stage of normal labor. The contractions, however, are not of the gestation sac, for this structure contains so few muscle fibres that its contraction is a matter of impossibility, but the contracting organ is the uterus. False labor continues for several days during which time the child dies. After foetal death the placental circulation becomes obliterated. The foetal sac shrinks and becomes closely applied to the body of the child, and one of the aforementioned degenerative changes ensues. The abdomen here, of course, becomes smaller, a symptom usually noted by the patient. In certain instances extra and intra-uterine pregnancies may coexist. Parry finds this condition to have occurred twenty-two times in five hundred cases, and he calls this combined pregnancy. More rarely twin extra uterine pregnancies have been noted, and in rare instances both occupied the same tube. Repeated

tubal pregnancy has been observed and reported in a number of instances; Williams has collected sixty-six such cases.

DIAGNOSIS.

The symptoms of an early, unruptured extra uterine pregnancy are so uncertain that they render a diagnosis at this stage almost impossible. Tait made the statement that it was impossible to make such a diagnosis, and most operators agree with him. In rare cases a diagnosis of the condition is made, but it is almost the rule that after such a diagnosis the operator finds the mass in question to be either inflamed tube, or small ovarian cyst.

The diagnosis would probably be based upon the following symptoms: A patient who has been sterile for some time thinks herself pregnant, having the usual subjective symptoms, with possibly an abnormal amount of pain in the ovarian region. If such a patient were the subject of tubal pregnancy, on examination the uterus would be found to be enlarged and somewhat soft and boggy, and off to one side or rather posteriorly, there would be a small pulsating (?) tumor, roughly the size of the supposed pregnancy, but as above stated, it is common to find the mass other than of the supposed nature. The pregnant tube has been known to prolapse into the cul-de-sac of Douglas and be mistaken for a retroflexed pregnant uterus and attempts to replace the same have resulted in tubal rupture. If the foetus dies before rupture of the tube, the diagnosis is still very difficult, such cases usually being mistaken for uterine abortion, associated with an inflamed tubal mass. The source of error has arisen from the fact that when the foetus died the uterine decidua, which had been cast off in shreds, gave the impression of the discharge of a normally implanted ovum. Most observers believe that the discharge of a more or less complete decidual cast of the uterine cavity is an infallible sign of extra uterine pregnancy. The fallacy of this sign has, however, been repeatedly shown by the fact that eminent gynecologists relying upon this sign have opened the abdomen only to find it free from abnormality, the condition being membranous dysmenorrhoea, and that the supposed extra-uterine pregnancy has been simulated by a small ovarian cyst. The probable diagnosis after death of the foetus and before rupture can be made in some cases by a careful sifting of the history of the case, and by a careful examination of the patient. For instance, she believes herself pregnant; she has discharged shreds of tissue, which may have been decidual; she may suffer more or less pain in the ovarian region; perhaps the first time

she ever experienced this pain. If now an enlarged uterus is found and a small mass on one side or posterior, corresponding with the supposed duration of the pregnancy, a fairly probable diagnosis can be made. At the occurrence of rupture or of tubal abortion, with intra-peritoneal hemorrhage, the symptoms are so characteristic that an almost certain diagnosis can be made without a bimanual examination. The patient may or may not give the above history, when, suddenly, with a sharp attack of pain in the ovarian region, she passes into a condition of collapse, with weak, rapid pulse, pallor, sub-normal temperature, etc. Vaginal examination reveals but little, as the patient is too tender to allow the necessary manipulation. With these symptoms the diagnosis of ruptured tubal pregnancy is practically certain, and unless speedily relieved by operation the patient will die. If she is allowed to pass on and recovers from the collapse, the probabilities are that tubal abortion has taken place and the hemorrhage has been checked by the formation of a pelvic hematoma. As tubal rupture may occur very early in pregnancy, even before the patient has the slightest suspicion that she is pregnant, one should always regard collapse with signs of intra-peritoneal hemorrhage as strong probabilities in favor of rupture of extra uterine pregnancy. A ruptured pyrosalpinx will produce about the same train of symptoms, with the one exception that in this condition there is an elevation of temperature.

In rare cases the tube is not acutely ruptured, the fibers slowly separating under pressure and the foetus extruded into the peritoneal cavity or into the folds of the broad ligament without producing symptoms that will cause the patient to seek the advice of her physician.

TREATMENT.

This can be condensed into one word—operate.

If the diagnosis is made prior to rupture, the patient can be carefully prepared in the manner usual to abdominal sections. Should rupture occur into the folds of the broad ligament, haste is not necessary, as the bleeding will cease. If the rectal examination reveals fluid in the cul-de-sac the sooner the operation can be performed the more favorable the chance for recovery.

While preparations are being made the condition of the patient must be watched and saline solution introduced to compensate the loss of blood.

Strychnia, atropia and ergot, hypodermatically, and normal saline by rectum and hypodermato-

clysis or transfusion will assist materially. A good supply of sterile saline solution should be provided and an assistant at hand who must offset severe hemorrhage by transfusion. For this purpose the median basilic can be utilized.

OPERATION.

The abdomen should be opened by an incision, beginning one and one-half inches above the symphysis, and extending to the umbilicus. The blood is removed and the intestines walled back from the field of operation by warm gauze sponges. The bleeding points are clamped and the gestation sac examined.

Should the placenta be large and firmly adherent to the pelvis, it is best to tie the cord and allow the placenta to remain, as these cases are usually surgically clean and no bad after effects are noted.

If the blood supply can be easily secured by ligatures, the vessels should be tied up with No. 1 cat gut and the placenta removed. The tube and ovary should always be removed to avoid the possibility of future trouble.

DISCUSSION.

Dr. Ricketts, Cincinnati: The paper is so rife with history that I think it should not be passed by without recognition of some kind. It simmers itself down to this one point, the remarks towards the close of the paper as to the uncertainty of recognition, and while it is true that some gentlemen have made the diagnosis of extra-uterine pregnancy previous to rupture, I am inclined to think they are very rare as compared to those cases in which the abdomen has been opened after they have ruptured. It was my good fortune to be with Mr. Lawson Tait and help him arrange his forty-three specimens of extra-uterine pregnancy, which were presented to the British Gynecological Society in 1883, when he made the statement that when such pregnancy did take place in the tube he did not believe that the diagnosis could be made previous to rupture. I will say that the diagnosis has been made in a very few cases since by gentlemen in this country and others, but after quite a little work in this line I have not had the pleasure of finding a case previous to rupture. Of course, these cases being in the care of the general practitioner, it does not always happen that we have the opportunity of observing them soon enough.

There is one point I want to consider, and that is the danger of permitting an extra-uterine pregnancy to progress even after the diagnosis has been made. We have those broad ligaments, and we have the blood supply to the Fallopian tubes, and when an extra-uterine pregnancy exists there is bleeding on the slightest provocation. Now, the best method of treatment is to open the abdomen and do what is necessary.

I want to put on record a case which I have not reported—a woman from Germany, whom I was called to see in her home in Cincinnati. The family physician had made a diagnosis of intra-

ligamentous cyst, which was the size of an orange, and the woman had an extra-uterine pregnancy on top of this, and it had ruptured into the cyst. Now, as to the advocacy of removing the opposite tube in these cases. We removed the extra-uterine pregnancy in this case and drained through the vagina. Some fifteen months ago this woman had a full-term child, notwithstanding her previous trouble, and she is now pregnant. While we may have extra-uterine pregnancy occurring on both sides, as in those cases reported by the doctor, yet I think it is bad surgery to advise the removal of the tube and ovary of the other side, even though you find a ruptured tube on the other.

Dr. Marr: My experience has brought me in contact with both sides of this question. In the one case of extra-uterine pregnancy in which the one tube was not removed—no antecedent history of tubal infection preceding the first tubal pregnancy—we left the other tube and ovary in, and about three years afterwards we had the same trouble to recur, resulting in the death of the patient. In another case which I saw three years ago, in which the one tube was removed and the other tube was left intact, I delivered this woman of a full-term healthy child, and now I am expecting to deliver her of another child. But I think where we can obtain a history of prior trouble, previous tubal infection, where there has been an antecedent gonorrhea, I think it is the part of good surgery to remove both tubes at the same time.

SEROUS OR POSTERIOR BASIC MENINGITIS; ITS EARLY RECOGNITION AND TREATMENT.

J. PARK WEST, M. D.,
Bellaire.

[Read before the Ohio State Medical Association.]

The class of cases to be considered in this paper are *usually* seen in children under three years of age and during the colder months. It includes the cases of meningitis in which so often no cause is found; also those cases accompanied or preceded by a catarrhal inflammation of the naso-pharyngeal, and even of the bronchial and intestinal, mucous membrane. Sachs ascribes a slight or forgotten head injury as the cause of many of the idiopathic cases, and some cases are due to an unrecognized (and it may be unrecognizable) middle ear inflammation, the result of a present or preceding naso-pharyngeal infection. It is possible some cases follow one of the acute exanthemata or other acute infections and very rarely one of the chronic infections. It is to the former cases your attention is especially directed, viz.: The sporadic cases with or without apparent cause, or following closely an acute catar-

ral inflammation. The writer has come to look on the high mortality in these cases as unwarranted, and believes it to be due to the late beginning of proper treatment and the failure to vigorously carry out this treatment.

He is not unaware of the fact that one may become enthused over a line of treatment that has nothing to do with the seeming results, but since no new method, either as to diagnosis or treatment, is offered in the paper, and believing that the more timely and thorough use of the old methods will produce better results than are usually attained this paper was written.

A few years ago a prominent teacher of New York made the statement that "every disease in its most pronounced typical form has one unequivocal, absolutely diagnostic, pathognomonic symptom." (Dr. Joseph E. Winters, Medical Record, January 9, 1904.) With the exception of a very few cases of the fulminating type the first stage of serous or posterior basic meningitis has this "unequivocal, absolutely diagnostic, pathognomonic symptom." If this symptom is recognized early in this first stage, appreciated at its true value at this time, and treatment properly and vigorously applied the very large majority of the sufferers with this disease will get entirely, completely well. No child treated by the writer that has recovered from the acute stage has been left with hydrocephalus nor with any deterioration of the functions, mental or motor, of the brain. All text-books give the symptom more or less mention and therefore it is not new. But probably on account of most writers of text-books being consultants and not frequently seeing meningitis in its incipency, most of them have not given it the emphasis it should have. This symptom is irritability; irritability of body; irritability of mind; continued restlessness. It is shown in many ways. It will not be seen in a hurried call, nor will it be brought out by a brief talk with the mother. It must be carefully looked for—painstakingly elicited. It is present sleeping and awake. Not only is the child restless during sleep and has the startings so common at the beginning of any acute infection, but in addition, and of more importance now, likewise characteristic, is that microkinesis, those movements of "physiological unrest" seen normally in the infant while awake. A slight movement of a finger, of the hand, the foot, leg or arm, or a little uneasy turning of the head. These movements in the sleeping child are abnormal when kept up constantly. It is very exceptionally the above history, if carefully sought, cannot be obtained, and almost always precedes vomiting and convulsions.

To add to the restlessness is an apparent

hyperaesthesia of the skin; a light touch disturbing a seemingly sound sleep. A particular and early manifestation of this irritability is a change in disposition; a good baby becomes cross; a cross one unmanageable. They will cry without cause or on the least provocation and the cry is as often, or oftener, that of anger than that of pain. The irritability occasioned by a bright light, by noises and the presence of others, especially not members of the family, is very noticeable, and the talking of strangers is very objectionable.

If the patient is closely observed the prominent symptoms of the second stage are seen, but in a miniature way, in this first stage, although it may for a time require somewhat of a stretch of the imagination to interpret them as such, but if they are not so interpreted valuable time has gone. While awake the child will often cry out in a quick, fretful way, at the same time twisting and throwing himself as if seeking an easier position. These correspond to the hydrocephalic cry and the opisthotonos that will surely come later if treatment is delayed. This early there is considerable rolling and boring of the head which may seem at times as but seeking a change of position, but soon becomes more continuous and at the same time more ominous. Frequently mothers say this boring is a habit; this will soon be found to be a misleading statement.

Other than an irregular increased temperature there cannot be said to be any more symptoms at this stage. Convulsions are unusual, but occur in about 15 to 20 per cent Cerebral vomiting has been noticed a very few times; ordinary vomiting at some time in probably one-fourth of the cases. Other disturbance of the gastro-intestinal, excepting constipation, is not common. Rigidity of the neck and hypertonia of other muscles, even though present, are hard to elicit positively at this time in a cross child, as is also the action of the pupils on over-extension of the head, but the absence of these signs should not be allowed to negative the diagnosis.

The claim is not made that a positive diagnosis of meningitis can be made on the two symptoms, continued irritability and increased temperature. But it is claimed that a provisional diagnosis should be made without waiting for the oncoming of other signs and symptoms and treatment at once begun. If in a short time the presence of some other disease or condition than meningitis is apparent no harm has been done, while on the other hand much good will have been accomplished. The advice given by an eminent writer on the nervous diseases of children that "no physician should be in a hurry to diagnosticate meningitis, pure and simple, unless other diseases can

be safely excluded" may be right from a scientific standpoint, but entirely wrong from the therapeutic and prognostic side. Following this advice will result in the loss of time that can seldom be regained, and if regained will needlessly prolong by weeks a sickness that is a terrible strain on all connected with it, and increase the likelihood of leaving a crippled child.

It is apropos at this place to mention that it is especially in connection with meningitis that the diagnosis of teething and worms does so much harm. It is doubtful if a practitioner is ever justified in making a positive diagnosis of either on symptoms. Proof positive of worms is easily produced; not so easily with teething. To say a child is cross from teething obscures the mind of the physician and prevents close observation by the mother. On the other hand the physician who does not hesitate to say early and with only the foregoing as his guide, that a child may be having, or is in the first stage of a brain trouble should not be put down as an alarmist; he is but stimulating the naturally close observations of the mother, is thereby obtaining valuable help for himself, and gaining more valuable time for his patient.

TREATMENT. Much can be done with medicine and little by nursing, as nursing is now ordinarily understood. The nurse who will sit down, fold her arms, and keep her eyes open is the one to be in charge. The fussy one who is always doing something, taking the temperature, counting the pulse, bathing, changing the bed, etc., will do harm instead of good. A physician in a large city took six puppies of the same age and caused them to have brain fever. Three were put in a cool, dark, dry, quiet cellar; the other three in a warm, sunshiny, noisy room. All were given the same care. The three in the dark, quiet cellar got well; the three in the noisy, warm room died. This story, whether true or not, has never yet failed the writer in securing safety from external irritants absolutely necessary for the successful treatment of this disease, and that seldom is secured except by some such ruse. The use of an ice bag to the head, the hot water bottle to the spine, the application of ointments to the head or body are external irritants, and since no one has any good from them they should be prohibited. Dr. Jacobi's advice, *Non nocere*, is not more applicable in any disease.

After the selection and preparation of the sick room, the clearing out of the gastro-intestinal canal, and the proper attention to any other conditions present, the child is put deeply under the influence of codeine and bromide of soda. As a rule a child of one year is given one-twenty-fourth

to one-twelfth grain of codeine every hour until the effects of the drug are apparent, and then given at intervals of two, three or four hours to continue steadily the effect; at any time returning to the hourly doses should the condition of the child require it. With each dose of the codeine is given, never less than five and often more than ten grains of, bromide of soda, depending on the development and general condition of the child. The two drugs are usually given together. The size and frequency of the dose of the bromide should be such as to cause at least a partial abolition of the pharyngeal reflex as evidenced by considerable mucus in the throat. At times it has been found necessary to push the bromide till it so lessens the irritability of the larynx as to cause some strangling when swallowing. Any less amount than that to produce these effects fails of the purpose and the sought-for end may not be gained. The giving of two or three or even five grains of any bromide preparation every three hours is practically useless in the treatment of a child with meningitis. Jacobi recommends from 15 to 150 grains in a day. The remedy must be pushed rapidly to full physiological effects, and it is only when these are distinctly seen has one done his best with the means placed in his hands to combat this dreaded disease. The unpleasant effects of the bromide may be mitigated by the use of a reliable preparation of hyoscyamus. With each dose of the bromide, after its effects have been secured, from one-fourth to one-half drop of the fluid extract, even to causing some redness of the skin, will limit the amount of the pharyngeal mucus and also help the action of the codeine. This treatment, carried to this extent, will have to be continued, with but minor variations, for from two to seven or eight weeks, with an occasional gradual let up at times, to be renewed in full again upon the appearance of any untoward symptoms.

An attempt is made in most cases to give from 10 to 20 grains of iodide of potash in the twenty-four hours for a few days. The patient is not to be wakened, for it, and it is always to take second place to the codeine and bromide. It is given to combat any undetected syphilitic taint and with the hope that it may have some resolvent power.

Cases treated in this way show very much the same phenomena. Under the full influence of the medicines they sleep soundly for varying periods, showing little or no irritability. As time lessens the effects of the medicines small movements begin to appear during sleep. These increase, sometimes quickly, sometimes slowly, and the child will awaken very restless, throwing himself, kick-

ing, rolling his head and crying out, recognizing no one, and only with difficulty can he be held. If the codeine and bromide are given when the first unrest is seen he may be quieted in from one to one-and-a-half hours; if he becomes thoroughly awakened this will require from three to four hours, often even if the medicines are given at shorter than hourly intervals.

When the child begins to improve the first real and positive sign will be shown by the way he wakes. The same small movements will be seen both before and after the waking, but will not be so intense. He will, for a short time, look at those around as if partially recognizing them, may smile, try to talk, and will make some purposeless movements. Gradually the irritability increases and soon he becomes so very restless that another sleep will have to be induced. The periods of irritability gradually lessen and pass away. When practically over the meningitis an eighteen-months-old child will have the actions and appearance of a three-months-old infant, and the child recovering from meningitis is in reality an infant again.

At fairly regular intervals of from eight to twelve hours a nursing child will nurse and older children take considerable quantities of liquid food. This has been the rule after the first few days. In but a very few cases has death occurred with any meningeal symptoms; it is usually due to a severe ileo-colitis or to gradually increasing asthenia.

During the past eight or ten years in which this treatment has been pursued the second stage has been apparent in about two-thirds of the cases seen, and when present the symptoms have not been severe. There are occasional periods of drowsiness, but deep or prolonged coma is unusual. Irregular breathing that does not always assume a particular type is common, but Cheyne-Stokes' respiration has rarely been seen except during sleep. Some crying out, but not often the sharp, shrill scream. Pushing back and rolling the head are usual, but marked opisthotonos is not. The fontanel is full, but varies, and only at time is it tense. Babinski's reflex is present in some and absent in other cases; in some children it is found at one visit and not at another. In no case, so far as recalled now, has it been present throughout the disease. Kernig's sign, or at least some hypertonia of the thigh muscles, is present in the majority of the cases; in just what number cannot be stated. The fever runs a very irregular course. It will be present and probably high for a period at the beginning; then may be absent or subnormal for a time to return again

without apparent reason. The daily fluctuations are at times very marked. Convulsions and vomiting, as mentioned before, are not the rule. Grinding of the teeth and movements of the muscles of the face are present.

CONCLUSIONS: There are but two conclusions or points to this paper which has been long-drawn out for fear they would not be properly emphasized.

First. Make an early provisional diagnosis, even if the symptoms are few and not distinctive.

Second. Begin treatment for meningitis early and continue it vigorously. The treatment does not cover up symptoms—it prevents them.

EXTIRPATION OF LACRIMAL SAC—INDICATIONS FOR AND TECHNIC OF OPERATION.

CHARLES S. MEANS, M. D.,
Columbus.

[Read before the Ohio State Medical Association.]

The lacrimal sac is one of the four divisions or parts of the lacrimal apparatus. The lacrimal gland, with its two divisions—superior and inferior—which empty their acinous fluids into the eye at the upper and external fornix, is the first division.

The sewage or drainage system of the secretions supplied by the first or glandular system of the eye begins with the punctum lachrymalis, or entrance of the lacrimal ducts, one in either lid, extending inward and joining together, forming the common duct which enters the lacrimal sac.

The lacrimal sac lies in the inner and lower part of the orbit in a groove called the lacrimal sulcus. This groove presents a smooth concave longitudinal surface. The free margin unites with the nasal process of the superior maxillary bone, which completes the lacrimal groove, the upper part of which lodges the lacrimal sac and the lower the nasal duct.

The tensor tarsi muscle and the internal palpebral ligament passes over the sac. The sac proper is about twelve to fifteen millimeters in length and five or six in width. The upper extremity of this sac is oval and dilated larger than it is below, gradually becoming smaller until it enters the nasal duct. Here is the smallest caliber of the duct. It gradually dilates as it goes from the entrance of the lacrimal canal and empties into the nose. The sac is covered by a fibrous expansion derived from the tendo oculi.

The fourth division of the sac is the nasal duct, which is narrowed down to a caliber of about two to three millimeters. It extends from the lower part of the lacrimal sac to the inferior meatus of the nose, where it terminates by an expanded orifice, or, as Gray says, "It is provided with an imperfect valve formed by the mucous membrane."

The entire inner surface of this canal and sac is covered with a columnar epithelium similar to that of the nose. The point of constriction at the entrance of the duct is the location where we have the most trouble with stenosis.

Why and when should this sac be removed is the chief object of this paper, yet it would not be complete without first touching upon the milder treatment of chronic dacryocystitis, mucocoele, etc. I do not wish it understood that all cases should be operated upon. This subject has been very fully treated by a great many writers, and only last year we had in this section Dr. Snyder's paper on the treatment. You no doubt remember he made a plea for conservative treatment, and as a last resort only to slit the canaliculi and the old method of probing and strong irrigating antiseptic douching.

I am glad to say most of the above severe treatment has been rightfully discarded by the majority of oculists.

Again, Mark Stevenson, in his splendid paper before the A. M. A., which no doubt has been read by all of you, gives a complete resume of all forms of treatment, and I wish to give due credit for any material gleaned from these papers.

Dacryocystitis is due to many causes—discharges from an infected conjunctiva and from external infection entering through either extremity of the canal from eye or nose.

Again, occlusions from either end is a prolific cause either from malformation or malposition or pressure on the punctum or the lacrimal canal at its nasal opening. Especially is it due to pressure made by some growth or hypertropic tissue in the nose. As has often been said, investigate the nasal cavity thoroughly before making a diagnosis of the cause.

All authors agree that the nose is the chief offender in the causation of this disease. After the cause has been found, and, if possible, the offending infection, stenosis or malformation is removed, then the method of irrigating the canal and sac with some mild non-irritating antiseptic fluid is in order. By the preliminary use of a mild solution of cocain and adrenalin the tissues can be relieved of their congestion, often allowing the passage of medicines without the use of a syringe, and a cure be established in this way by the patient at his home.

If this is found impossible, after continued treatment for a few days or weeks, the punctum should be dilated and a careful irrigation of the cavity of the sac be made. The congestion and thickening of the mucous membrane along with the debris that has collected can thus be removed and thorough drainage may be the result. By the above methods a cure is often made and entire relief given.

Unless the medicine can be forced into the nose through the canal, the treatment will be of little avail. Then the use of a small probe. I say small probe advisably. This probe should be used, of course, with the greatest care and knowledge of existing conditions. A new canal can easily be made by such a small probe when force is used upon it and inestimable damage produced.

Some will say that this small No. 1 probe should never be used, but in my hands it has proven a very valuable aid, and, if properly used, can be inserted in many cases without slitting the canaliculi. If the passage is impossible, then use the graduated probe to dilate the canaliculi and try again. As a last resort slit one canaliculus—not through its entire length, as formerly taught, but only enough to allow a probe to be inserted easily into the sac. I have never yet seen the use of very large probes be of any benefit. On the other hand, I have seen great harm done by the laceration of the tissues and fracture of the bony canal from their use.

Thorough cleansing and drainage must be the object sought in all treatment. While the above treatment carefully carried out over a period of weeks is often successful, yet we have so many failures that a newer, better and quicker method has been sought. This, I believe, in properly selected cases has been found in the extirpation of the sac.

A few laws governing this operation should be rigidly observed, or failure will be the result as in former treatment.

First.—Never operate on an acute dacryocystitis.

Second.—Never operate until milder and more simple means have failed.

Again, we have many cases that come under the following lists which cannot have extended period of treatment. I make it a rule to operate on the following classes of patients:

First.—Cataract patients who come from a distance and have neither the means nor opportunity for taking a long extended course of treatment before operation.

Second.—Nervous or hysterical patients who are unable to bear the passage of probes or even

the use of the syringe. (One man I now recall fainted and was so sick he had to be removed to his home every time either a probe or a syringe was introduced.)

Third.—Children that are practically unmanageable, causing not only an endless amount of bother, but also a liability of injury to themselves by resistance.

Fourth.—Long persistent cases that have not responded to careful treatment.

Fifth.—Traveling or transient patients who would be compelled to be under a new physician almost constantly, running the risk of neglect and greatly increasing the expense.

Sixth.—Persons living in rural districts and unable to be away from home for long extended periods and financially unable to return to the oculist.

Seventh.—Where ulcer of cornea is present.

Eighth.—When malignant growths in the sac are to be feared.

Ninth.—When one eye has been lost and constant discharge endangers the remaining eye.

The operation for extirpation of the lacrimal sac is one that requires a great deal of care, and a distinct knowledge of the anatomy of the parts. It is scarcely necessary to say that the entire procedure must be done under the strictest asepsis possible.

In Fuch's clinic Dr. Meller makes it a rule never to operate under a general anesthetic, except in very small children and neurasthenics who will not bear any operating at all. The hemorrhage is so much greater under the general anesthetic that he advises against its use in every possible case. If the injection of a 1% solution of cocaine, along with twenty drops of adrenalin to the dram, is done correctly, there is no need for suffering by the patient.

The first injection should be to insert the needle over the sac and inject six to ten minims beneath the skin. This should be massaged slightly. In two or three minutes it will have produced anesthesia in this region. Then insert the needle over the upper end of the sac straight in until it passes through the periosteum and inject slowly three to five minims. Insert the needle again at the lower end of the sac at the entrance of the lacrimal canal and inject ten to fifteen minims here into the cavity of the sac and also beneath the periosteum. After operation has begun, if at all sensitive, inject again into the painful area.

Have the patient close the eye and keep it closed so that the tissues will not be drawn tense. Locate the crista and make the incision through

the skin over its crest. Do not stretch the lid. The incision should be made slightly curved from a little above the level of the internal canthus downwards and outwards about three-fourths of an inch long, following the curve of the crista. After the skin is incised, dissect it back about four or five millimeters. The orbicularis muscle will then be in view. Now place your retractors, several of which are in the market; then incise the muscle fibers and dissect them back as you have the skin. The deep fascia will next be encountered. This can be dissected back by blunt dissection, using either the closed scissors or a blunt dissector, the same as was done with the skin and muscle.

You will then have the crista in view. Take your knife and incise the deep fascia and the periosteum over the crista, making sure to go through the periosteum. Dissect the sac, beginning at the inner or nasal side and gradually removing it in its entire length along with the periosteum. Then incise the fascia and periosteum on the lateral or external wall and dissect it, beginning from above and gradually dissecting under until you join where you have dissected from the outside. After you have loosened the sac, both laterally and internally, seize it with a strong forceps; then cut with the scissors the ligamentous attachment at the upper end and turn it down. If you are careful not to cut the angular vein, you will avoid a great deal of hemorrhage. If the hemorrhage is profuse from this source, ligate, if possible, since hemorrhage obliterates your view so much that you are liable to leave a small portion of the sac.

After loosening the sac from above, turn it down and make strong traction, thus stretching the lower or lacrimal end before incising as low down as possible. After removing the sac as far down in the canal as you can, then take a sharp curette and remove the mucous membrane from the canal all of the way down to the nasal exit. This will insure closure of the lower end of the tube. Again inspect your surface to make sure that all the sac has been removed. If any part of it remains, you will have a fistula resulting, and it will necessitate another operation to remove the remaining part of the sac.

Some operators advise slitting the canaliculi and destroying the mucous membrane of the canals to avoid a blind sac in this region. I have had no trouble in this line, but shall not go to this extremity unless I find more reasons than I now have. From my experience there has been no trouble at all with the remaining closed lacrimal ducts.

After removing the sac, the incision is closed by

three deep sutures and four or five superficial. A small compact of gauze is now placed over the wound and held in place by a tight bandage. This last procedure is very important, since there must be complete control of hemorrhage in the cavity. Very firm pressure may be uncomfortable to the patient, but must be insisted on to obtain the best results.

As a rule, if your technique in asepsis has been without fault, these cases heal by first intention, and the stitches can be removed in four or five days. The resulting scar, if no infection has taken place, will be scarcely noticeable after a few days.

I want to insist again never to operate in acute cases. If pus has formed, drain as you would an abscess and treat until the acute symptoms are relieved; then operate as above.

The epiphora will probably remain to some extent for six or eight weeks. After this the patient will probably have no evidence of excessive amount of lacrimation. From the best statistics that I can obtain, about 8 per cent. of sac removals will continue to have excessive lacrimation or epiphora.

It is to be understood that any conjunctivitis or other irritation about the eye must be removed. Also all strain, such as error of refraction, etc., will have to be corrected.

If the epiphora still remains after several weeks, then a removal of the lower lacrimal gland is a justifiable procedure. I should say never do this when you operate on the sac, since the per cent. of necessary cases is so very low.

The method of operating on the lower or inferior lacrimal gland is simple and easily done—a double roll of the lid. That is, inverting the lid as we do to inspect the conjunctiva, then grasp the inverted lid with a broad, smooth thumb forceps and make a second roll; that is, turn the thumb forceps up until the lid is rolled the second time on itself. This should be held by an assistant. Then incise the conjunctiva under local anesthesia and dissect it by exposing the gland. The fascia and muscles need not be disturbed in this operation.

After the gland has been removed, the conjunctival wound is closed with two or three catgut sutures. The removal of this section of the gland will, as a rule, cause atrophy of the upper gland and the epiphora will then cease. In recurrences the entire gland will have to be removed. This is a more serious operation, since the orbital tissues are exposed and is operated by opening from external surface through the tissue until the gland is exposed and its removal by dissection is obtained.

The question will now arise whether or not the

eye will be too dry after the gland has been removed. This has not been the experience of those who have operated a great number of times. In the comparatively few I have operated upon I have had no trouble following this procedure. The other secretory glands of the eye supply enough lubrication and moisture.

DISCUSSION.

D. W. Greene, Dayton: Dr. Means has covered the ground so thoroughly that there is little left to be said. I desire to emphasize what he has said indirectly as to the conservative treatment of the direct troubles that lead up to the conditions where extirpation of the sac is necessary to effect a cure. I am convinced that many cases of catarrhal dacryocystitis are not only made worse by probing, but that a suppurative condition is set up which renders removal of the sac necessary, and perhaps some of the lacrimal gland as well. It matters little whether the sac is removed by dissection or destroyed by the cautery or by caustics. The indications are to seal it above and below, and to remove the diseased walls. Of course, dissection is the more modern surgical procedure, but I do not believe the results are any better. The method of operation has been so fully described that I cannot add to it. But I do desire to impress the fact that the greatest danger in all operations which open the eye ball comes from disease of the sac, which can be so easily overlooked in mild cases that a routine examination of the sac should be a part of every examination. Before the globe is opened in this way disease will be detected and extirpation can be done if necessary, and our proportion of primary infection after operations can be reduced from this cause.

Mark D. Stevenson, Akron: I agree with practically everything the essayist has said and he has nearly covered the whole field. The nasal condition in these cases should be emphasized—especially the condition of the inferior turbinates. In the acute cases more good can often be done through treatment of the nose than by treating the eye. Of course, this depends on the causative conditions present. A bacteriological examination should be made of the discharge before operating to help determine whether a drain should be left in the wound or not. The hemorrhage can be greatly prevented by a proper speculum. My speculum is small, easily placed in any wound and has two blades with lower projecting serrated edges, which can be pressed by an assistant against the bone preventing bleeding, especially when widely opened by pressing down and stretching the tissues. A deep incision about three-fourths of an inch long is made down to the bone commencing at the upper margin of the internal palpebral ligament. The ligament is severed making the removal of the fundus of the sac easier. It is easily restored by a strong deep suture. No attempt is made to prevent the hemorrhage until the speculum is introduced. The periosteum on the inner side of the sac is readily removed. The sac is then easily grasped with forceps, pulled up high and its junction with the mucous membrane of the nasal duct severed by

scissors. It can then be readily dissected upward. The chief lacrimal gland lies well on the outside of the orbit. An incision one inch long is made at the outer upper part of the orbit, the same speculum is introduced and approved. If this is pressed deep into the orbit the gland can be made to protrude and can be readily removed.

D. T. Vail, Cincinnati: The removal of the lacrimal sac is an operation that is sometimes really necessary; for example, in one instance which the doctor has mentioned in the paper, namely, previous to cataract operation in certain cases. Certainly we would not attempt to remove a cataract from an eye in which there was even a suspicion of dacryocystitis. The presence of chronic suppuration of the tear sac renders the patient unfit for operation for cataract, and he should not be subjected to the futile attempts to render this hidden sac sufficiently sterile by slitting, probing and syringing. The sac must be removed; then the cataract operation is safe.

The paper is an excellent one and the description of the technique is perfect. If you follow Dr. Means' directions you will have no trouble. However, I do not see the force of the argument that the doctor would rather that the patient would not be operated at all than to proceed under a general anesthetic. I would say for myself that I would prefer to give a general anesthetic rather than to operate under local anesthesia. The operation takes three quarters of an hour, sometimes longer, and a patient certainly must have iron nerves who will stand the manipulation about the face while perfectly conscious. There is some pressure and force necessary, the patient is cognizant of the instrumentation, and while he does not feel the pain so much, yet he soon learns that it is a heroic operation, accompanied by hemorrhage in many cases.

As to the difficulty of the operation under a general anesthetic, I do not see that it is any more difficult than without. The adrenalin mixture is injected as described. The cocaine is left off, and you make a deeper incision along the anterior border of the sac, along the side of the nose in a curvilinear way, going through the skin muscles and fascia, separating the margins of the wound by means of a blunt instrument, applying the retractors, and finding the margin of the lacrimal groove. When you have found that you know then where you are. It is like finding the antrum when doing a mastoid operation. By picking up the sac with a strong forceps, you can follow it around nicely. The operation is shorter and every bit as efficient as when done in the manner described by the essayist.

C. F. Clark, Columbus: I should like to say in this connection that I should be glad to be convinced that these patients do not suffer when operated without general anesthesia. I was glad to hear what Dr. Vail said on the subject. If you go to Berne some time you may see Kocher operate on patients with goitre without a general anesthetic. He will also operate on German born subject for appendicitis with a local anesthetic, but we cannot do it. Try it a few times here on your private patients and you will lose your practice. I think in private practice we will still have to use general anesthesia for these operations.

C. S. Means, Columbus (closing): I thank the gentlemen for their very frank discussion of my paper. One subject, that of anesthesia, has been attacked. I have used general anesthesia and had such copious hemorrhages that it was impossible for me to locate the tissues or see what I was doing, and my results were not so good as under the local anesthesia.

Dr. Vail has said it is a "long-time" operation. This has not been my experience. If I do not have hemorrhage the operation need not extend over a few minutes, but if the blood is constantly in your way then I can say it would be extended over a long period of time, hence the statement in my paper that local anesthesia was very much to be preferred.

Some one has said that our people would not stand for the same amount of pain that the Germans do in their clinics. This is very true, but our people, as a rule, will stand a good deal of pain if they realize that it will save the ill after-effects of a general anesthetic. I have heard Professor Meller in Fuch's Clinic, of Vienna, say that "he would rather a patient would go home than to refuse to be operated under local anesthetic."

I saw the operation done in London under ether anesthesia, and the hemorrhage was so profuse the operator was not certain whether he extirpated the sac or not. The surgeon explained to the class that this was his second operation, and he believed his last on account of the profuse hemorrhage covering the entire field of operation.

I shall try the different speculi that have been offered by some of the men here with the hopes that the solid blade will aid me in stopping this extensive hemorrhage.

BACTERIOLOGY OF THE CONJUNCTIVA.

E. M. WEAVER, M. D.,
Akron.

[Read before the Ohio State Medical Association.]

The bacteriology of the conjunctiva in health and in disease is of much importance to the ophthalmologist. The former, chiefly in its relation to ophthalmic surgery; the latter that he may the more effectually combat the various pathological conditions that may arise. The normal conjunctiva of the newborn contains no bacteria (Parsons¹). Since the conjunctival sac is open to the air, in such close proximity to the skin and liable to contact with soiled hands, towels, etc., it soon harbors numerous micro-organisms; its constantly moist surface, with its folds and crypts, offers every inducement to their lodgment. It has been established that many harmful as well as harmless bacteria are present in the normal conjunctival sac.

The first to study the normal conjunctiva was Gallenga,² who, in 1886, reported his findings to

the Italian Ophthalmological Congress in Genoa. The next year Leber, Petresko, Gombert, Gifford and Sattler gave reports. Many later observers also have given their results. The xerosis bacillus is most commonly found; next after that the staphylococcus albus. Small diplococci, probably including many species, are not uncommon in the conjunctival sac (Parsons¹). It is generally conceded that the different forms of staphylococci and streptococci are frequently present; pneumococci, diphtheria bacilli and in very rare instances the Koch-Weeks bacilli, the diplobacilli of Morax-Axenfeld and even gonococci have been found on the healthy conjunctiva. Axenfeld³ states that: "The normal conjunctival sac is very often infected with pus-producing organisms, and the bacillus xerosis is constantly present. Virulent micro-organisms are seldom found, but there is a possibility of their being present, especially the pneumococcus." Eyre⁴ has found that the number and character of the organisms vary greatly. The fact that at times the conjunctival sac is found to be sterile is doubtless due to the mechanical flushing of the sac by the tears and to their bactericidal action. McKee⁵ has found that in the great majority of normal conjunctivæ the ordinary pyogenic bacteria and the bacillus xerosis are present.

The study of the many forms of conjunctivitis shows that conditions, clinically undistinguishable, may be produced by different organisms and that it is not possible to specify any definite micro-organism as the cause of a given clinical type of inflammation. Many factors are at work in producing this diversity in cause and effect. The interaction and reaction between organism and tissue is modified by the individual constitution and predisposition and the condition of the conjunctival sac at the time of the infection. Some organisms depend less on these conditions than others, and mixed infections make it even more difficult to assign any clinical type to a definite micro-organism.

The conveyance of an infection from one individual to another by means of some of the secretion from the affected eyes being carried by means of the fingers, towels, washing utensils, etc., to the eye of another is doubtless the most ordinary method of spreading the contagion. However, it has been proven by much experimental work in Germany and in this country that bacteria may be transmitted by the air. Flügge⁶, in 1897, published his results showing conclusively that bacteria mixed with dust remain flying in the air for hours and that the ordinary room dust may be carried by slow currents of air throughout a room and into adjoining rooms. The con-

ditions requisite for the transmission of organisms in the air are that they have the ability to withstand drying.

Flügge⁶ and his assistants also demonstrated the method of infection by means of fine drops. In diseases accompanied by coughing and spitting this method is particularly important. Flügge proves that every cough, sneeze or outcry throws into the air large numbers of fine drops of sputum, and also that these droplets may remain flying in the air for hours. Goldie⁷ and Boston⁸, in this country, have shown that in ordinary talking, persons having tuberculosis expel droplets, which may be caught on a glass plate held in front of the mouth, and in these droplets bacilli may frequently be found.

In all forms of conjunctivitis in which there is much secretion the organisms may be carried down through the lachrymonasal duct into the nose and throat and be thrown into the air by the acts of talking, coughing and sneezing. Lobanoff⁹ reported a case where diplobacilli were present on a sore spot at the angle of the mouth for a long time. Erdman¹⁰ found this organism present in the nose in forty-two out of sixty-seven cases of conjunctivitis due to the Morax-Axenfeld diplobacillus. McKee has constantly found diplobacilli in the noses of patients suffering from this form of conjunctivitis. Rhinitis and bronchitis due to the pneumococcus are often found associated with pneumococcic conjunctivitis. As influenza and pneumonia are often doubtless spread by means of the secretion containing the organism being thrown into the air in droplets, so the conjunctiva may often become infected in the same way. The carrying of the secretion by flies must be considered also (Shumway¹¹). Stevenson¹² calls especial attention to this method of conveying the contagion in purulent ophthalmia.

There are some forms of conjunctivitis recognized where no bacteriological cause can be discovered, due to gouty diathesis, eye strain, alcoholism and to irritation from gases, exposure to winds, dust, smoke, etc. However, these cases are few in comparison with those in which a bacteriological factor may be determined.

In all cases the latter should be sought for by staining and examining smear preparations or culture tests in doubtful cases. For general work, Loeffler's methylene blue is considered by many to be the most useful stain. However, Gram's method is the most satisfactory, as it shows at once the Gram-negative bacteria. While in many cases the study of smear preparations is sufficient, in a large number of conditions cultural characteristics must be studied in order to make

a differentiation, and in cases where there is a mixed infection it is extremely difficult to determine what organism is the cause of the trouble.

As to the commonest micro-organisms found, several different observers have examined long series of cases and given their results. From a large number of reports it appears that the most common forms are Morax-Axenfeld, Koch-Weeks, gonococcic and pneumococcic conjunctivitis. Different countries and localities show a predomination of different forms. In Nebraska and Washington pneumococcic conjunctivitis is the prevalent form; in New York, Koch-Weeks is most frequently seen; in Montreal the Morax-Axenfeld is by far the most common form (McKee⁵).

Morax-Axenfeld diplobacillus.—This, discovered independently by Morax and Axenfeld in 1896, is a large bacillus, about one by two microns, with rounded extremities, and occurs chiefly in pairs, end to end, sometimes in chains. It stains readily with anilin dyes and is negative to Gram. It can be cultivated on blood serum, serum agar, serum bouillon or hemoglobin agar. Loeffler's blood serum is generally considered an excellent medium. McKee thinks it unsatisfactory in many ways. It is gradually liquefied. The agar is not liquefied, but cultures on it form minute transparent pots. The media must be alkaline. The diplobacilli are non-motile, obligate aerobes. No other bacteria found in the conjunctiva have been observed to grow like the diplobacillus on blood serum, except the bacillus of Petit, which grows abundantly on all usual culture media, liquefies gelatin and has considerable resistance to drying, and Friedländer's pneumonia bacillus, which grows on agar and has a well marked capsule, according to Tooke. Axenfeld and Erdman report having grown it on ordinary glycerin agar. Erdman¹⁰ produced a typical diplobacillary conjunctivitis by inoculating a healthy human conjunctiva with the seventh generation of a culture in glycerin agar. The diplobacillus is nonpathogenic for animals, but unconditionally so for the human conjunctiva, the incubation period being about four days (Pusey¹³). Erdman has shown that it may retain its vitality in a dried state for weeks. The clinical manifestations vary from no conjunctival symptoms to purulent ophthalmia or the most severe corneal ulcer. It is often characterized by a chronic blepharoconjunctivitis not very severe and most marked at the inner angle. McKee⁵ reports several cases in which severe subjective symptoms occurred. Pain in the eyes was complained of, which was worse at night. Many cases were acute, simulating blenorrhea. It is extremely im-

portant that this form of conjunctivitis be recognized, since we have for it a specific in instillations of zinc.

Koch-Weeks Bacillus.—This minute organism, first discovered by Koch, in 1884, and later more carefully studied by Weeks, is about 0.25 micron broad and from 0.5 to 2 microns long. They often occur in pairs, lying end to end, forming chains of two or three links, or side by side. Their ends are rounded, and there is sometimes a deep polar staining. They are found both in the cells and between them. They stain with methylene blue or gentian violet and are decolorized by Gram's method. They stain well with a carbolized solution of methylene blue or methyl violet, after fixing the film with sublimate (Parsons¹). The bacilli are not at first easy to find on the glass slide. They are hard to cultivate, rarely growing on gelatin or serum, occasionally on 0.5% agar. Special media are generally required for their cultivation, serum agar and serum bouillon being the best. Very fine round transparent granulations appear on the surface after twenty-four to forty-eight hours, which resemble those of the influenza bacillus. They are distinguished from the influenza bacilli by the fact that the latter grow only on a hemoglobin medium. They lose their vitality rapidly, are readily destroyed by heat and are unconditionally pathogenic for the human conjunctiva, the incubation period being two or three days. The experiments of Weichselbaum and Hofman have shown that after drying, the bacilli lose their vitality in three to eight hours, and therefore, can probably not be carried by the dust. However, when the secretion is abundant they may readily be carried into the nose and be communicated by the drop method of Flügge or be carried by flies. The Koch-Weeks bacillus is now considered one of the most common causes of acute contagious conjunctivitis. Many epidemics of this form of conjunctivitis have been reported.

The Gonococcus (Neisser).—This occurs in the form of diplococci, with concave sides facing each other, arranged in small irregular groups between the cells or around the nuclei within them. It stains readily with anilin dyes and is negative to Gram. It is difficult to cultivate, the best media being human blood serum alone or mixed with bouillon or a mixture of agar with ascitic or hydrocele fluid or blood serum. The colonies formed are small, irregular and transparent. It is differentiated from the meningococcus and the pseudogonococcus by the fact that they grow readily on ordinary media. The former is very rarely found on the conjunctiva, and the latter not frequently. McKee⁵ believes that the fact that

some cases of supposed gonorrheal ophthalmia run so much milder a course than others is not due, as is commonly said, to difference in virulence of the microorganism, but to the fact that it is due to other Gram negative diplococci of much milder virulence. The gonococcus loses its virulence in dried secretion after thirty-six hours. Welander¹⁴ says it retains its vitality as long as the secretion remains moist. It may readily be transmitted by soiled articles or carried by flies. It is probably not unconditionally contagious, as unilateral cases are not infrequent, and the cases are few in proportion to the number of cases of urethritis, though this may possibly be due to the protection afforded by the lids and tears or to a low degree of immunity conferred by the disease. There is no evidence on this point. Kalt¹⁵ has reported the unsuccessful inoculation of a trachomatous child. Endogenous gonorrheal conjunctivitis has been proved (Haltenhoff¹⁶). As gonococci carried in the blood stream can set up inflammation in the joints, so it may happen to the eyes. Cases have been reported in which metastatic infection of the joints occurred from a primary gonorrheal conjunctivitis, especially in the newborn, but these are very rare. The gonococcus is the cause of gonorrheal conjunctivitis in the adult and from 65 to 70 per cent. of cases of ophthalmia neonatorum.

Diplococcus Lanceolatus or Pneumococcus.—On cover glass preparations pairs of small oval or lanceolate organisms are seen lying free, or sometimes in the pus cells. Occasionally they are found in chains of four or five members. Each pair may be surrounded by a capsule, but this is more often absent on the conjunctiva. It stains readily with the anilin dyes and is positive to Gram; but the capsule, if present, is decolorized. It grows best on alkaline media at incubator temperature, blood serum or blood agar being best, but it will grow on glycerine agar. It forms transparent, round colonies. Capsules are not found on the organisms produced in cultures. The different types vary greatly in their resistance to dryness, some retaining their virulence in a dried state, especially in secretion, for months. It can thus be carried in dust very readily, and, as it is often present in the nose and throat, it is readily thrown into the air in droplets and can in this way be easily conveyed to different individuals. This organism is found on the normal conjunctiva, and predisposition on the part of the individual is necessary to produce pneumococcal conjunctivitis, but epidemics have not been infrequent. It appears most during the coldest season and is often associated with coryza (McKee⁵). It has a predilection for young children (Par-

sons'). It is sometimes the cause of ophthalmia neonatorum, but it is not so severe as the gonorrheal form. It has been found occasionally in diphtheritic and croupous membranes, either alone or mixed with other organisms.

Diphtheria Bacillus (Klebs-Loeffler).—This bacillus varies considerably in form, generally appearing as straight or slightly curved rods, sometimes spindle shaped. The ends may be pointed, but are often clubbed and contains segments which stain more deeply than the center. The culture forms are more irregular; no spores are formed. Parsons¹ believes that the variation in the morphology probably accounts for many of the so called pseudo-diphtheria bacilli. It stains with methylene blue and is not decolorized by Gram. It grows on ordinary culture media, grows well on serum agar, alkaline bouillon, but best on Löffler's blood serum. It forms flat grayish colonies. This organism may be present on the normal conjunctiva, but under certain conditions, as injury or previous conjunctivitis, produces membranous conjunctivitis, the intensity of which is controlled by the virulence of the variety, other organisms present, as the staphylococci and streptococci, and the resistance of the patient's tissues. Luedde¹⁷ reports two instances of uninocular diphtheritic conjunctivitis. It may vary from a mild croupous to a deep necrotic form. It is believed by many that membranous conjunctivitis is caused by many other bacteria. Pseudo-membranes may be formed by the Koch-Weeks bacillus, by pneumococci, gonococci, staphylococci, streptococci and rarely by the meningococcus, colon bacillus and Friedlander's pneumobacillus. These are usually mild forms, but severe cases have been reported in the absence of the diphtheria bacillus (Shumway¹¹). It is very resistant to drying, so can be carried by the dust and also by drop injection. Morphologically and culturally it is very similar to the xerosis bacillus. The former is pathogenic for animals; the latter is not. The diphtheria bacillus produces an acid reaction in neutral peptone bouillon; the xerosis does not, although in time it does, according to Axenfeld. In most cases, if after growing the organisms on Löffler's blood serum at 35 C. for ten to twenty-two hours, Neisser's stain (acetic acid methylene blue for from one to three seconds, followed by Bismarck brown from three to five seconds) shows the true diphtheria bacilli stained brown, the polar globules described by Ernst, blue. The xerosis bacillus does not show this staining of the globules until forty-six to forty-eight hours later. However, the degree of virulence of the individual

growth generally determines the presence of the diphtheria bacillus (Thomson¹⁸).

Staphylococci.—They are found frequently on the normal conjunctiva. The staphylococcus pyogenes aureus is the most virulent variety. It occurs usually in groups and extracellular. It stains with ordinary aniline dyes and is positive to Gram. It grows on all ordinary media in abundant yellowish colonies and liquefies gelatin. It withstands drying for months and may be carried by dust. It may be associated with other pathogenic forms and is sometimes found in pure culture in simple catarrhs and in pseudo-membranous conjunctivitis. The staphylococcus albus is believed by some to be nearly always present in the conjunctival sac. Hudson and Pantou¹⁹ have found both the staphylococcus albus and aureus as well as the streptococcus as the cause of acute conjunctivitis, the white staphylococcus causing the least severe form. Schottelius²⁰ has found the staphylococcus aureus present in fifty-one out of eighty cases of conjunctivitis occurring in the course of measles. In such cases Parsons¹ considers it doubtful whether an endogenous staphylococcal conjunctivitis exists. However, infection could easily travel from the nasal mucous membrane to the conjunctiva. In the most severe cases streptococci were found. Pascheff²¹ reports a case of staphylococcus abscess of the conjunctiva.

Streptococci.—This is slightly smaller than the staphylococcus and occurs in chains of varying lengths. It stains readily and is positive to Gram. It grows on ordinary culture media, forming small transparent colonies, which remain colorless and do not coalesce. It does not liquefy gelatin. It is very resistant to drying and is never found on the normal conjunctiva, according to most authors; others have found it rarely. It may be the cause of two forms of conjunctivitis, pseudo-membranous, and a form, usually unilateral, associated with lacrimal disease of the same side—Parinaud's conjunctivitis. However, this last named affection is believed by Gourfein²² to be caused by an organism not yet discovered. This is often complicated with iritis and swelling of the preauricular glands. This organism may be associated with other organisms and increase the severity of other infections. McKee⁵ reported an epidemic of streptococcal conjunctivitis in infants.

A bacillus which he has found in nine cases and which no one had before noted is described by McKee⁵. It is a short bacillus, with rounded ends. It more often occurs singly, but may form groups, and is found within and without the leucocytes, generally without. It grows best on acid

hemoglobin agar and is negative to Gram. Clinically, morphologically or culturally it can be differentiated from the different bacilli which it most resembles in certain features, particularly the Koch-Weeks bacillus and the different influenza bacilli. It is pathogenic for mice. This form of conjunctivitis occurred as an epidemic in infants in a Jewish colony in Montreal.

Blenorrhoea neonatorum has been reported by McKee, Axenfeld and Bult as having been caused by the bacillus coli-communis. All the cases were severe in the beginning, but each ran a mild course. The meningococcus intracellularis is rarely found on the conjunctiva and must be differentiated from the gonococcus and pneumococcus. The pseudo-gonococcus or micrococcus catarrhalis (McKee⁶) is positive to Gram and is readily cultivated. It is the cause of an acute epidemic conjunctivitis. Zur Nedden has recorded cases of conjunctivitis due to the influenza bacillus. Many other micro-organisms have been found in the normal conjunctival sac (McFarland and Kneass²³). Many were ordinary saphrophytes; the identity of others was never confirmed. Some which may be mentioned as having been found in a few cases of conjunctivitis are the bacillus septatus, bacillus pyocyaneus, Friedlander's bacillus pneumoniae, bacillus ozenae and bacillus mucosus capsulatus. While microscopic organisms have been described in the study of trachoma, the organism is still considered undiscovered.

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MEDICAL ECONOMICS

The *Knocker* may be known by certain characteristics; his methods are destructive, not constructive; his actions are retractive not progressive. He offers nothing but a grouch to take the place of the dissension he has created; the thought atmosphere of the knocker is saturated with selfish motives, envy, hatred, destructiveness, etc. He is unhappy and malicious; he is without friends among the good people of the earth; his departure inspires the hope that reincarnation may not be true.

The menace of the house fly grows with increasing knowledge of its evil. It is a busy carrier of bacteria, typhoid fever, tuberculosis and other communicable diseases are converged from the sick to the well.

Flies are born in garbage and other decomposing animal and vegetable matter. They do not

migrate far from breeding places. These facts are placed before the public by Herbert Osborn, Professor of Biology of the State University.

Death of the mosquito has stamped out cholera and malaria. Death of rats in San Francisco was the means of checking the plague. Science paved the way to the abatement of these diseases, and is teaching the people how to prevent diseases which are surely fly-born. Preventive medicine teaches the origin of the house fly in manure heaps, garbage or other organic waste and teaches its easy destruction by the abatement of these nuisances. Local health authorities should enforce the abatement of any condition which has a tendency to decomposition, as straw, paper, vegetable or animal matter should be removed or destroyed, or covered with lime and kerosene oil. Until health authorities cause the abatement of the breeding places of flies, people should give

greater attention to screening their houses and food stuffs from this ubiquitous and dangerous pest.

The old cell block at the penitentiary, embodying so many unsanitary features, is being replaced by a modern structure.

Every state medical journal should conduct a department of medical economics. American medicine is almost exclusively devoted to scientific pursuits. Forty per cent of the nation's revenue is expended in the maintenance of the Army and Navy. This defensive attitude of the government toward its social and business integrity exhibits the relation of scientific medicine to medical economics. Matters of medical organization in every community, more than scientific attainment furnish the laity with the criteria from which to estimate the worth of medical men.

STATE BOARD NEWS

G. T. Dimm, of Fostoria, signs himself "A Specialist." He claims to be able to cure Bright's disease and approaches people on the street or in the car; tells them they have kidney trouble and that they will die if they do not take his medicine. Affidavits charging illegal practice have been filed against him.

HANDS OF STATE BOARD ARE TIED.

Attorney General Denman has filed a motion in the Supreme Court, asking for advancement of the case of Emil J. Rose against the State Medical Board, in which the principal question raised is that of the right of the board to revoke certificates of physicians for unprofessional conduct, the validity of the law under which the board acts being involved.

Since the suit was instituted the Board has been enjoined in six different cases by the Franklin county courts from revoking certificates and these restraining orders will be permanent until the Supreme Court decides in the Board's favor in the case brought by Rose. It was started in Cuyahoga county and both the Common Pleas and Circuit Courts there held for the Board.

Rose is a physician and it is alleged he was practicing under two different names. He was attacked by a Cleveland newspaper and subse-

quently he left that city and went to Toledo, where he was formerly located. One of the charges made against him by the Board is gross immorality and one of the questions the Supreme Court is asked to pass upon is to define just what constitutes an offense of that nature.

The attorney general wants the case heard and decided without delay, as the Board's hands remain tied while it is pending.

Affidavits charging illegal practice have been filed against E. L. Ellsworth and H. W. Hughes, of North Baltimore. Ellsworth is a "Mechano Therapist" and Hughes a "Suggestive Therapeutist." Hughes claims that their national secretary has advised him to carry the case to the Supreme Court of the United States. Ellsworth does not give drugs and thinks he is immune.

Alfonzo Aratus, whose certificate was revoked April 6, has appealed to the governor and attorney general in regard to the action of the Board.

Alexander Grytze, of Toledo, charged with illegal practice of medicine, was on May 12 found guilty and fined \$25 and costs, and sentenced to jail for ninety days by Probate Judge O'Donnell. Grytze was rejected certification in 1897, and again in 1898. He has attempted several times to practice, but prosecutions have foiled each effort. Judge O'Donnell has promised him the limit if he appears before him again.

HYPODERMIC INJECTION OF CARBOLIC ACID FOR BOILS.

The method of curing carbuncles, boils, felons and infected wounds by the hypodermic injection of pure carbolic acid has probably been discovered by others but I have seen no mention made of it. If the story has been told, it has not been told lately. The method is perfectly simple and consists in the injecting with an hypodermic syringe a few drops into the center of the infected region. The earlier this is done, the better, before pus has formed. It is best to introduce the needle to one side of the swelling, away from the point of rupture of the skin, if pus has formed. The pain is instantly relieved and the acid will do no harm if of full strength; it may be used freely.—H. D. Gardner in Pennsylvania Medical Journal.

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THE CINCINNATI MEETING

The sixty-fourth annual meeting of our State Association was a record breaker in every sense of the word. There were more members in attendance, more guests, more sections, more papers, and less complaints over the arrangements and accommodations than ever before.

There were actually registered 725, and judging from the physicians in attendance from Covington, Newport, etc., and allowing for those who did not register for one reason or another, the total number present must have reached fully one thousand.

The promised hospitality of Cincinnati certainly proved itself not wanting in any particular. There was a heartiness of greeting and a warmth of sociability on the part of our hosts which made every visiting member feel that he was a welcome guest and added greatly to the enjoyment of the occasion.

The special addresses were undoubtedly a great attraction and amply fulfilled the lively anticipations of the hearers. Think of such a list: Sippy, Allport, Beck, Gant, Lewis, Moss, Plummer, Pope and Geier! The papers were worthy of the high char-

acter of the speakers and added greatly to the value and interest of the sessions.

The numerous sections were all well attended and afforded opportunity for papers in every department of medicine. The programs were of an unusually high character, and the spirited discussions which took place showed the lively interest aroused. There were in all 122 papers read in the three days which is quite beyond anything ever done in our state meetings heretofore.

The places for the various meetings were very satisfactory, and the convenience of having them all under one roof cannot be over-estimated. Certainly the Sinton did everything possible for the comfort and convenience of the meeting, and much credit is due the liberal management of this magnificent hotel for the courteous and considerate services rendered.

The smoker given by the local profession was a delightful and informal function, and thoroughly enjoyed by all. All in all, Cincinnati treated the Association royally, and in the size and character of the meeting, as well as in the delightful hospitality shown, has set a standard that will be difficult to equal.

COLLOID GLANDS (GOITRES)

Under this title Marine and Lenhart in the Bulletin of the Johns Hopkins Hospital for May discuss some interesting etiological and physiological investigations.

They object to the term "goitre" as ordinarily employed, as it has been used too generally to include not only all enlargements of the thyroid gland, but other growths in the neck as well.

Their investigations include observations of 700 dogs and embrace the anatomical changes, the change following the removal of portions of the gland, the effect of the administrations of iodine, etc.

In this paper their attention is particularly directed to the relation of hyperplasia of the thyroid to colloid goitres, and their conclusions are that the latter are reversions from a persisting stage of hyperplasia of the gland, that the colloid condition is an involution type of atrophy, rather than a degenerative change; that this stage is a quiescent one which may, however, become active, reverting to a state of hyperplasia, which explains the clinical fact that cases of Grave's disease appear clinically engrafted upon a colloid goitre.

"DELEND A EST MUSCA
DOMESTICA"

The above paraphrase of Cato's famous utterance which appeared in a recent editorial in one of our daily newspapers apropos of the recent campaign inaugurated against the fly pest, appeals to us as a very happy battle cry in this important hygienic matter, and also shows the interest which our daily papers are taking in such affairs when the importance of the subject is sufficiently impressed upon, and explained to the editors.

The editorial referred to, briefly, half-humorously but clearly, outlined the dangers to the health of a community from the common fly and urged a determined effort in doing away with the pest. Such

articles unquestionably do a great deal of good in educating the public; probably much more, for instance, than a profound and scientific address on the same subject before a medical society. We believe that a great deal of good could be accomplished by systematically inspiring such articles in the papers in the various communities. It might bring about a better understanding between the press and the medical profession and we believe that the press would be glad to co-operate with us in this way.

THE PREVENTION OF BLINDNESS.

The State Commission for the Blind feels that in order to accomplish all that it hopes and plans to do, it must have the hearty co-operation of the physicians over the state. The importance of such an educational propaganda must be appreciated by every physician, and each should lend his hearty assistance to this work. Seventy-four out of two hundred and sixty children now in the State School for the Blind have lost their sight from ophthalmia neonatorum—an absolutely preventable disease, and yet which entails such dreadful deprivation and suffering. It is estimated that each blind person throughout his life costs the commonwealth two thousand dollars. Here is, hence, nearly a million dollars' loss, together with great individual suffering and deprivation, all needlessly incurred because of ignorance.

No part of the state is without blame in this particular. It might be supposed that the prevalence of gonorrhea would be greatest in the cities, and this may be the case, but the country districts are just as largely represented in the School for the Blind as the cities. In the country fewer visits are made by the physician in the puerperium, often none or but one or two, and ophthalmia may develop and be well established without the attending physician being informed. Again the personal relations between the patient and physician are

often closer in the country, and he is reluctant to suspect the patient of being the victim of gonorrhea and fails to take the proper precautionary measures.

The consequences of such a failure, however, are so disastrous that every physician should establish the routine practice of Crede in instilling a few drops of silver nitrate; two per cent solution, or argyrol, ten per cent, in the eyes of the new-born child. This should especially be done where the physician does not expect to see the patient again, or perhaps not for two or three days. The practice is harmless and may avert serious consequences.

The Commission has prepared carefully written circulars of advice to nurses and mothers in cases of ophthalmia and is prepared to furnish these to all physicians who will be willing to distribute them to their clientele.

Word of this action on the part of the Commission was sent to every practitioner in the state, over 7700, and thus far only about two per cent have responded. This is not taking our fair share in this work. A certain onus of responsibility for these cases must rest upon our shoulders if we do not do everything in our power to prevent such a dreadful thing as the curse of blindness following ophthalmia neonatorum. The latter may be a visitation for the sins of commission by the father, but let it not follow sins of omission by the physician.

EDITORIAL NOTES

CINCINNATI MILK SHOW AND DAIRY INSTITUTE.

The Cincinnati Milk Show and Dairy Institute, which was held under the auspices of the Dairy Department of the Ohio State University and the Ohio State Dairymen's Association, in the Chamber of Commerce Building, Cincinnati, Ohio, May 4 to 8, has been generally considered one of the best educational features of the dairy business held in many years.

The pure milk exhibit was probably one of the most attractive features of the milk show, and

was attended daily by an average of about 6000 people. There were eighty samples of milk entered for the prize contest. Fifty-five of these were from Cincinnati and vicinity, while the other twenty-five were samples of certified milk sent in from all parts of the country. Among the different points represented were California, Massachusetts and Canada. The latter competed for the trophies in the first national certified milk contest. Wm. Lovel, of Brighton, N. Y., received the first prize, and F. E. Moore, of Alfred, Pa., the second. Over \$350 was awarded in prizes. Model dairies were shown and miniature constructions and photographs of the dairy industry from all over the world. These were compared with some of the filthy dairies as they exist around Cincinnati. The contrast was an interesting one and showed conclusively why the people should become more interested in the selection of good milk and that in their selection they should not be governed entirely by the cheapness of the product.

The Dairy Institute was divided into five sessions. At the first session the discussions were mainly on "What Constitutes Good Milk," and "How to Produce It." This session was presided over by W. E. Miller, manager of the French Bros. Certified Milk Plant. The address of welcome was given by Vice Mayor John Galvin, and the response by John D. Nichols, president of the Ohio State Dairymen's Association. The following addresses were given: "How Milk is Judged," Clarence B. Lane, Assistant Chief of the Dairy Division, U. S. Dept. of Agriculture; "Care of Milk on the Farm," H. E. Van Norman, Professor of Dairy Husbandry, Pennsylvania State College; "Stable Construction," Oscar Erf, Professor Dairying, Ohio State University. Time was given for discussions after each of the addresses.

Ernst F. DuBrul presided at the second session, the general topic being "The Necessity of Cooperation Between Consumer, Dealer and Producer." Hon. Renick W. Dunlap talked on "The Function of the State Dairy and Food Department"; "The New Milk Regulations of the Health Department," Dr. Mark Brown; "The Problem of the Milk Inspector," Dr. W. E. A. Wyman, Inspector Covington Kentucky Board of Health; "Care of Milk in the Home," Mrs. Frederick Tuttle, of the Cincinnati Women's Club; "Journey of Milk from the Farm to the Home," John D. Nichols.

"Detection and Cure of Diseases of Dairy Cattle," and "Effects of Cattle Diseases on Milk," were the general topics for discussion at the third session of the Dairy Institute. John D. Nichols

presided. The following program was carried out: "Tuberculin Testing of Dairy Herds," Dr. Frank Eisenman, Kentucky State Veterinarian; "Diseases of Dairy Cows," Dr. H. A. Christmann, of Cincinnati; "Diseases of Children Traceable to Bad Milk," Dr. Alfred Friedlander, Chairman Milk Commission of the Academy of Medicine; "Twenty Years Experience as a Producer of Certified Milk," Stephen Francisco, Fairfield, N. J.

Professor Oscar Erf presided at the fourth session which had for its subject, "The Breeding, Selection and Feeding of Dairy Cows." The following addresses were given: "Breeding and Selection of Dairy Cows," L. P. Bailey, former member Ohio State Board of Agriculture; "How to Produce Cheap Feeds," Bert Smith, Delaware, Ohio, and "Wet Feeding vs. Dry Feeding," C. S. Plumb, Professor of Animal Husbandry, Ohio State University.

A public meeting was held on the evening of May 7, at Mechanics Institute Hall. The general topic—Public Health and Its Relation to the Milk Supply. Hon. Guy Mallon presided. The following addresses were given: "Recent Government Investigation of Milk," Dr. Benj. R. Hart, Director of Federal Food and Drug Laboratory, Cincinnati; "The Physician in Relation to a Pure Milk Crusade," Dr. Otto P. Geier, Secretary Milk Commission Cincinnati Academy of Medicine; "The New Health Board and its Responsibilities in Regard to the Milk Supply," Dr. Samuel E. Allen, former Health Officer, Cincinnati Board of Health; "The City's Health—Its Best Asset," Dr. W. A. Evans, Health Commissioner of Chicago.

The Dairy Farm Equipment Exposition displayed an interesting exhibit of modern dairy machinery which has become really necessary in the production of pure and wholesome milk.

PROFESSOR HALLBERG IN CINCINNATI.

Professor C. S. N. Hallberg, of Chicago, member of the Council on Pharmacy and Chemistry, American Medical Association, who has done so much for the purification of pharmacy, delivered an address before the Ohio Valley Druggists Association at the Lloyd Library, Cincinnati, Saturday evening, May 15, 1909. The subject was "The Irrepressible Conflict." The professor, who has been an active member of the American Pharmaceutical Association for thirty years, brought with him the report of a meeting of the society in Cincinnati fifty-five years ago. He proved that the irrepressible conflict was being waged then and is still waged between honest pharmacy and quackery in pharmacy as well as

in medicine. He discussed the professional side of pharmacy as opposed to the commercial side. He reviewed the history of pharmacy in this country and especially that of Cincinnati, which was largely that of the Ohio Valley. He paid especial compliments to the work of Adolph Fennel, E. S. Wayne, Wm. B. Chapman, Dr. John King and W. J. M. Gordon. He dwelt on the connection between the physician and pharmacist and assured them that if they showed real worth and honesty the physicians would find them out. He said that where the fight against quackery failed was its inability to use the press. The daily press of Cincinnati, though mentioning the address favorably, failed to mention his attacks on patent and proprietary medicines, even to mention the subject of his address. Addresses were made by Dr. A. O. Zwick, president of the American Pharmaceutical Association, Professor John Uri Lloyd, the eminent author and pharmacist, Professor C. P. T. Fennell, Otto Wetterstroem, Secretary of the Ohio State Pharmaceutical Association, Professor Waldbott, professor of Chemistry, Ohio Mechanics Institute, and Dr. E. S. McKee. Unfortunately it being Saturday night there was not as large an attendance of retail pharmacists as there should have been. This goes to show that the pharmacist, like the physician, is a slave to his calling. Professor Hallberg, who is also editor of the Bulletin of the American Pharmaceutical Association, was the guest while in Cincinnati, of Professor John Uri Lloyd.

E. S. McK.

IMPORTANT NOTICE.

During this month the mailing list of the Journal is being revised on the basis of the names reported as in good standing in the annual reports of the Secretaries and all those not on these reports will be dropped from the mailing list beginning with the July number. If you fail to receive the Journal next month, therefore, you will know that either you have failed to pay your dues, or if you have that through some error your name is not on the list.

If the latter should be the case notify your county Secretary, or this office, or both, at once so that we can correct any errors as promptly as possible.

We seek to keep our mailing list as correct as possible, but unless we are notified of mistakes we cannot correct them. Some members wait several months and then complain to their society that they do not receive the Journal. Send word direct to this office and we will investigate the matter at once.

NOTICE TO SECRETARIES.

The Journal is publishing now a roster of the County Societies, and in addition to the officers, desires to give the dates of meetings. Will all those who have not done so kindly supply us with this latter information so as to complete our data. Also please keep us informed as to any changes in officers and times of meeting so that our roster may be as correct as possible.

CORRESPONDENCE

Chillicothe, O., May 21, 1909.

To the Editor, Ohio State Medical Journal:

A short time ago my attention was called to a short editorial in your journal touching on the subject of our State Hospitals for the Insane.

A strong indictment of the present method of managing our State Hospitals was made at our state meeting in Cincinnati, and it would seem from the agitation of the subject of the relation of the State to the insane, that some good to the individual patient would follow. For agitation must bring education and education will surely bring, even to the politician, an intelligent comprehension of what the relation between the State and the unfortunate inmates really is. The State of Ohio undertook many years ago to care for her insane. Hospitals were built and laws passed controlling them and prescribing the method of commitment. The law lays hands on a patient, and he is adjudged insane, and the officers of the law forcibly incarcerates him in one of our institutions, presumably for treatment. He is sent to a hospital where it is supposed a study of his symptoms and an intelligent observation of his conduct, or a thorough physical examination, or all, may result in a specific diagnosis and treatment given, which may restore him to health, and to his family, and to the commonwealth as a useful citizen. But what really is done? What are the facts? When the hospital doors are closed behind him, he is weighed and measured, the commitment papers are recorded and filed, he is placed in a ward, chosen by the assistant—that most nearly fits his case—and turned over to the observation of the attendant and an occasional visit from the assistant physician.

If he proves violent and obstreperous, he is placed in a strong ward, and may be either locked up alone or given a hypodermic of hyoscine. Or if he promises to be a mild, harmless subject, he is placed in another class and so on, the whole classification seems to be one of conduct.

Now who is to blame for these institutions not being hospitals, as was really the original inten-

tion? The assistant physicians have direct charge of all patients, and upon them fall the responsibility of the diagnosis and treatment. But without an adequate observation ward for the reception of all new cases, and with the lack of laboratory facilities, which the state denies most institutions, added to that the duties of the physicians of receiving all friends of patients and talking over the conditions of same with them, which is absolutely necessary—for the friends who are interested want first hand knowledge, and answering all correspondents and censoring all letters written by inmates attending to the sick, etc., how can we censure our assistant physicians and how can we expect a personal study of individual cases under such conditions? What we need first is to take the management of our institutions absolutely out of politics—the board of trustees should be laymen and physicians—but they should not be chosen to pay political debts, but should be selected because of their interest in hospital work, and when once appointed if a man cannot give sufficient of his time to really know the institution, then he should not accept. It is not enough that bills be approved and requisitions made—but the real effective work of the board of trustees is in carrying out the original intent of our forefathers when they so generously instituted these hospitals and meant them to be hospitals indeed, and see to it that they are hospitals and not merely places of detention.

If the State of Ohio undertakes to be responsible for the insane, then she must through the several boards of trustees give of her best efforts to surround these unfortunates with the most humane, the most intelligent and scientific treatment that is possible to give—to the end that health and sanity be restored and justice be done to each individual case.

Respectfully,

G. E. Robbins.

CHARGING ALL THE TRAFFIC WILL BEAR.

The surgeons whose practice it is to charge all they think the patient can possibly pay, should be thoughtful enough to leave the patient a little balance, for the family physician may have a bill which he would like to collect from the patient. The fees sometimes taken from the patients by surgeons do not differ so much from grand larceny, except in the mode of obtaining, and it is not to be wondered at that some general practitioners or family physicians feel that they are entitled to commissions.—Western Medical Review.

THE SIXTY-FOURTH ANNUAL MEETING OF THE OHIO STATE MEDICAL ASSOCIATION

The sixty-fourth annual meeting of the Ohio State Medical Association was called to order in the convention hall of the Hotel Sinton, at Cincinnati, on May 5, 1909, at 9:30, by the Chairman of the Committee of Arrangements, George D. Fackler, of Cincinnati.

The speaker extended a hearty welcome to the Association in the name of the Cincinnati Academy of Medicine, outlined the arrangements for the meeting, and then introduced his Honor, John Galvin, Vice Mayor, who delivered an eloquent address of welcome in behalf of the city of Cincinnati.

The President of the Association, D. R. Silver, responded earnestly and appropriately, and then delivered the annual address of the president as follows:

PRESIDENT'S ADDRESS.

Members of the Ohio State Medical Society: For the sixty-fourth time in the history of this organization, a presiding officer has the opportunity to express his gratitude and thanks for the honor of serving as successor in a long line of illustrious men.

These men are numbered among the living and the dead. The former are known to you, most of whom are still active and zealous in the alleviation of human suffering and disease, and in every word and work which promotes the honor and the usefulness of this Association. Of the latter we can say that their lives are now matters of history, which for purposes of inspiration and encouragement it may be well for us to study.

However, neither the limits of this address, nor the ability of the writer as a biographer, will permit extended notice of individuals, but it would seem entirely proper to give a short historical review of our organization.

Whatever the future has in store of medical learning, of medical education, of medical skill and devotion to our great art and science, the past is at least secure.

That state which can claim as sons either by parentage or adoption such men as Drake, Mitchell, Gross, Armor, Musey, Bartholow, Whitaker, Conner and Reamy, has no need to be ashamed. And it may be confidently predicted from the character of the men who compose the teaching forces in her schools and the staffs in her hospitals and the modest workers in her towns and villages, the majority of whom are now active members in this society that the historian of the future will be at no loss to find names to extend this list among the honored dead.

Not less true today than when written nearly forty years ago are the words of Edward B. Stevens, of Cincinnati, who writing on this same subject, said: "Today, medicine in Ohio occupies a very proud position. There are memories of the past that we must never ignore; there are souvenirs of history too sacred to be forgotten. But for all this we have traveled up through tribulation and days of hardship. He who wades through the musty, smoky records, and pamphlets and scanty histories of the past sixty years of Ohio, will be at times translated—at times sorrowful and tender—at all times in a spirit of veneration for the self-abnegation of those who have gone before us—and after all our *egotism will live after us.*"

Let me add that it is better to be an egotist than a croaker. Better a builder than a knocker. Better to have faith in your neighbor next door than the one in the next state. The fact remains that even a prophet is likely to be without honor in his own country and among his own kin. Let us change all this. Let us stand shoulder to shoulder presenting a united front to the attacks of the enemy, which enemy is composed mainly of the ignorant, the credulous, the charlatan, the fakir and the publicans who would fatten upon the misfortunes of the people.

The annals of medical history in Ohio will properly divide it into three eras. Dr. Drake, quoted by Stevens in the Transactions for 1870, tells us that as early as 1812 what is called the old District Law provided for a state convention, and at that first convention, held at Chillicothe in the winter of that or the next year, there were just five delegates present: Drake, of Cincinnati, Parsons, of Columbus, Canby, of Lebanon, and Drs. Scott and Edminston, of Chillicothe. Think of the devotion of those men making a winter journey of more than a hundred miles on horseback, over the corduroy roads of that time, nearly a century ago. Those men, of iron constitution though they were, knew what it meant to make sacrifices for duty and they did not hesitate.

In the winter of 1827, some fifteen years later, a convention was held in Columbus, with Dr. Wooley, of Cincinnati, as president, at which time a plan and constitution for a state medical society was adopted, the first session of which was to convene in 1829. Of the assembling of these delegates Peter Allen, of Trumbull county, gives a graphic account which it suits my purpose to

quote. He says: "Toward the latter part of that year, some fifteen or twenty horsemen might have been seen wending their way, through mud and mire, along the different roads that centered in the village of Columbus. Their personal appearance somewhat resembled that of a company of men crawling out of a canal where they had been excavating on a rainy day."

This was indeed sacrifice and hardship of the kind that tried mens souls, and if anything can inspire the men of this generation to emulation of their great work in an endeavor to organize a state society this recital should do so. Notwithstanding these heroic efforts the organization seems never to have proceeded beyond the convention form, and was operated under the old District Medical Law, which law after many modifications was repealed in 1833.

The second period of medical history in this state dates from January, 1835, when Dr. William M. Aul issued a circular letter to "all regular scientific practitioners of medicine, who were disposed to advance the honor and dignity of the profession," to meet in convention. They did meet and Daniel Drake was one of the leading spirits and gave an address urging the establishment of a school for the instruction of the blind. It is worthy of remark that with one exception the subjects which claimed attention in those early days have by no means lost their significance to us. They were:

The regulation of professional etiquette.

The construction of independent medical societies.

The support of a periodical journal of practical medicine.

The erection of public asylums for the blind and the insane.

The promotion of the temperance cause.

And the convenient supply of the leech.

Under this system medical conventions continued to be held in various cities and towns of the state until May 14, 1846, when the Ohio State Medical Society was organized in the Neil House, at Columbus. G. W. Boerstler, of Lancaster, was first president of this society, James F. Hibbard, secretary, and the enrolled membership numbered twenty-five.

Thus commenced the third period of medical history in Ohio, and from this meager membership has grown up the great organization of nearly four thousand in a period of a little more than sixty years. Whoever will take the trouble to study the transactions, as published by the Association, cannot fail to be impressed with the ability of those men—our forefathers in medicine—both as to the literary merit, and scientific

value of their work. It shows very clearly that Ohio was abreast, as she is now abreast of any sister commonwealth in building up a capable profession.

The fourth period of medical history in Ohio began with the reorganization in 1902, when the membership was about one thousand.

And now, gentlemen, I have braved criticism in taking up some of your valuable time, not simply to renew your knowledge of ancient history, but to remind you that the fathers thought it worth while to make sacrifice for the sake of profession.

What is this organization worth to me? is a question of vast importance to every member of it. No one can fully realize the import of that query until he imagines the organization disintegrated and destroyed, its restraining influence against every form of evil withdrawn, and charlatanism and fakirism and fads and follies of the worst type running rampant. Picture the condition that must follow such a contingency and you will be the better able to renew your vows of allegiance to the Ohio State Medical Society.

There is not a single practitioner of medicine in the smallest hamlet in the most remote corner of the state who has not felt the quickening influence of this organization and there is no one so obscure that his influence and his help is not needed to build up and construct a machine in the best sense of the word which can bring its forces to bear for the betterment of society, for education, for legislation and for civic righteousness.

Organization, training in mass is as necessary for the attainment of our purposes as is the same movement in military tactics. Guerrilla warfare has never been credited with great victories. Sectarianism has no place in scientific medicine. Its tendency is to disintegrate and destroy, divide and weaken, and stands today as the chief obstacle against which we have to contend in obtaining the confidence of the people.

The signs of the times point clearly to the early extinction of these medical heresies. Speed the day when we shall have one great society with every legal practitioner in the state in active and honorable membership.

One of the agencies in the year's work which has contributed not a little to a more perfect organization of the profession, and a great deal to the education of the people of the state, was the tour of Dr. McCormack. Entered upon with considerable trepidation and with much diversity of opinion as to the outcome it gives me great pleasure to say that in my judgment the project was wise and judicious. And this statement by no means commits me nor any one to the matter nor

method of the addresses. The fact remains that thousands of people heard him gladly and that new thought and interest was aroused in medical, sanitary, and hygienic subjects. It is estimated that from ten thousand to twenty thousand people heard the lecturer and perhaps as many more read portions of his addresses as reported in the daily press.

Whilst the education of the people must ever be kept in mind a more perfect union of the profession in study and work, which was the lecturer's idea of organization, must ever remain as the basis of professional progress.

In this respect the tour was an unqualified success as attested by the large number of physicians who have taken up the work of study laid down in the program published by the American Medical Association. Teaching the laity and obtaining their co-operation is the first essential in the work of legislative reform. Legal enactment is often a short cut toward a goal that might be reached by education in unlimited time. Both are factors not to be neglected by the wise humanitarian.

Closely connected with this part of the subject was another which though professedly political, had an educational value of great importance to the people of the state. The senatorial canvass of Charles A. L. Reed afforded him an opportunity to present to thousands of people, facts, figures, statistics and general information which cannot fail to have a far reaching influence in shaping future legislation. He has therefore, not only by this canvass, but by his twenty years of effort in the direction of legal reforms and enactments, involving sacrifice only known to himself, placed the profession of this state and of the nation under a debt of obligation which calls for recognition.

In writing this address it has been my aim to avoid trespass upon the ground of those whose duty it is to make reports. The chairman of the Legislative Committee will doubtless give you specific information in all things coming under his observation in legislative work. However, I cannot permit this opportunity to pass without some observations and recommendations concerning that form of charlatantry now known as optometry. It is not difficult to understand how this fraud could attain such huge proportions when we consider the fact as stated by an eminent oculist of the state that if it be desired to empty the chairs of an audience at a medical society meeting it is only necessary to introduce the subject of refraction or some other anomaly or disease of the eye. In fact many medical men rather pride themselves upon their

indifference or perhaps their ignorance of the whole subject. Those who have pursued this branch of practice as a specialty are not without blame because they have failed to emphasize the fact that testing the refractive condition of the eye is a medical act and requires medical training of the highest order. The medical colleges are not without blame because their teaching on this subject has not been done with that vigor and emphasis and zeal which the importance of the subject justly demands. The state board has not been without blame because of its absurd ruling as to the opticians and optometry, and its failure to compel students to pass a rigid examination upon every phase of the subject of ophthalmology.

The result of this failure is that in something like a dozen states the profession is resting under the humiliation of legalized charlatantry. However, the recent experience of the Legislative Committee before the Senate Committee leads me to believe that in Ohio such a sentiment has been aroused that means will be provided for a vigorous defense of the state medical practice act at whatever point it may be assailed. Optometry is the most plausible of any of the pretensions of quackery. It will deceive the very elect as shown by the acts of the medical profession in this and other states. By virtue of this plausibility it is being used as the entering wedge in disrupting legal enactments intended for the protection of the people. Next year it will bob up again and we shall have to fight it as we did before the senate committee last winter. Should it ever succeed then will come the rush. There will then be a veritable deluge of bills for the legalizing of non-medical healing and all other forms of charlatantry. To anticipate and frustrate these designs it is hereby recommended to the councilors and to the secretaries of every component society to provide for the reading of papers in the annual program on the subject of refraction, and other anomalies of vision.

And this leads me to a point in this address where it seems necessary to make other recommendations, promising by the statement that money was never employed for a better purpose than in the retaining of Senator West as the attorney of the society at the last legislative session. His services were invaluable. For the protection of ourselves and the people a first class legal adviser is absolutely indispensable.

In this connection I wish to call your attention to another fact. Whenever a bill before the General Assembly requires an advocate or an opponent the state committee must summon help of those it judges most efficient. All medical men

are not competent. A man may be a first class surgeon, chemist or internist, and cut a sorry figure before a senate or house committee. He can easily do more harm than good.

Men when summoned will come cheerfully from the outmost confines of the state and render efficient service without expectation or hope of reward. This is a distinguishing characteristic of our noble profession. However, it is extremely embarrassing to the legislative profession to be unable to offer payment even of traveling expenses, including hotel bills. There is no authority to use funds for this purpose. It is sufficient sacrifice to ask men to leave their business without asking them to be at additional expense. The benefit accrues to every man in the state, and I ask that some provision be made by the House of Delegates to remedy this injustice.

Let me remind you that the time will never come when we shall not have to fight the enemies of good government and that two most powerful persuasive weapons are brains and money. Let the charlatans know that we mean business and the fight is half won before it is begun.

OPHTHALMIA NEONATORUM

The Ohio Commission for the Blind, at the instance of the American Medical Association, is taking a commendable step, in the education of the people regarding the cause or causes of infantile blindness. It is stated in the circular letter sent to physicians that twenty-five per cent of new admissions each year to the State School for the Blind is caused by specific diseases which is curable or preventable by proper treatment. It has been learned by this commission that a large number of physicians are still ignorant of the Crede treatment, which treatment is regarded as specific in its effects and never should be omitted when there is suspicion of infection. This charge of ignorance is certainly true of midwives, but to what extent it applies to physicians I am unable to say.

It is a significant fact, however, that it has been found that a large per cent of the whole number comes from the remote country districts. In regard to this there are two plausible explanations. The first one is that the country doctor is unsuspicious of his patients, and sometimes makes no second visit or but one at most. When eye symptoms develop in the infant the nurse or mother institutes the breast milk treatment and continues it until it is too late for any sort of medication to be effective.

The second explanation is that there are still three thousand doctors in the state who are not members of this Association, and that there are certainly two thousand who are not members of

any of the sectarian societies. Let this fact be a further incentive for greater effort in the direction of organization. It is a duty we owe to humanity, to bring every legal practitioner into active relations with the state association and its component societies. There is no better object lesson than the tracing of so large a per cent of the incurable from neglect to rural communities.

Accompanying the leaflets sent out by the Commission is a copy of the law from the revised statutes of the State of Ohio which is herewith appended in the hope that it may be seen by some one who might not otherwise be made aware of its existence:

FROM THE REVISED STATUTES OF THE STATE OF OHIO

(3140-3) Sec. 1. (Report of inflammation, swelling in eyes of infant, etc.; unnatural discharges therefrom.) Should one or both eyes of an infant become inflamed or swollen, or show any unnatural discharge at any time within ten (10) days after its birth, it shall be the duty of the midwife, nurse or relative having charge of such infant to report in writing within six (6) hours to the physician in attendance upon the family, or in the absence of an attending physician, to the health officers of the city, village or township in which the infant is living at that time, or in case there is no such officer, to some practitioner of medicine legally qualified to practice in the State of Ohio, the fact that such inflammation, swelling or unnatural discharge exists. (91 v. 75.)

(3140-4) Sec. 2. (Penalty.) Any failure to comply with the provisions of this act shall be punished by a fine of not less than five dollars (\$5) nor more than one hundred dollars (\$100), or imprisonment for not less than thirty (30) days nor more than (6) months, or both fine and imprisonment. (91 v. 75.)

For fifteen years this beneficent legal enactment has lain in obscurity practically a dead letter, and in consequence of this neglect several hundred citizens of the state are doomed to lives of sightless misery, and the commonwealth is burdened with their support. It is estimated that if a blind citizen is dependent through a long life the cost of maintenance is not less than ten thousand dollars.

Your executive officer would be guilty of dereliction of duty if he failed to commend the active interest of the Commission, following the lead of the committee of the American Medical Association. It is suggested that the House of Delegates could properly supplement this action by a recommendation to the council or to the component societies.

TUBERCULOSIS SANATORIA

One of the most important of recent legal enactments is that authorizing the building and equipment of county or district sanatoria for the treatment of that unfortunate class of persons who are afflicted with tuberculosis. This is a

subject of great interest to the medical profession, and one in which it ought to exercise its superior knowledge in the prevention of mistakes and graft which are liable to occur when left to purely political control. It is hereby recommended that each society in the state take up consideration of this tuberculosis question and carefully appoint a committee to guide the laity in the formation of a tuberculosis society. Not that the medical society should exercise control, but that it may take the initiative, and be well represented on committees of laymen for their instruction and guidance. In no other way can the interests of the public and the intended beneficiaries be properly safeguarded. I trust that the House of Delegates may see its way clear to endorse this suggestion and send down a strong recommendation to the component societies.

VASECTOMY

It is the judgment of your presiding officer that whilst the limits of the address will not permit notice of every important question demanding consideration at this time, that of sterilization of criminals and other defectives by the operation called vasectomy is of such interest that it must not be omitted in your discussions. Here as elsewhere, in the prevention of crime by degenerates and habitual criminals the public looks to you for guidance.

There is no question as to the rapid increase of the irresponsible. These have multiplied in the last thirty years more than twice as fast as the total population, and yet only a few states have made any effort to restrict the reproduction of these parasites of society. Indiana two years ago, and Oregon recently have made legal enactments for their protection, and similar bills have been introduced in at least to other state legislatures. If it meets with the approbation of the House of Delegates I am quite sure that the state legislative committee can procure a hearing for such a bill at the next meeting of the General Assembly, with a fair degree of assurance in obtaining enactment into law of a duplicate of the Indiana statutes, which is given in the following words:

"Preamble—Whereas, Heredity plays a most important part in the transmission of crime, idiocy and imbecility:

"Therefore, Be it enacted by the General Assembly of the State of Indiana that on and after the passage of this act it shall be compulsory for each and every institution in the state, entrusted with the care of confirmed criminals, idiots, rapists and imbeciles, to appoint upon its staff, in addition to the regular institutional physicians, two skilled surgeons of recognized ability, whose duty it shall be, in conjunction with the chief physician of the institution, to examine the mental and physical

condition of such inmates as are recommended by the institutional physician and board of managers. If, in the judgment of this committee of experts and the board of managers, procreation is inadvisable and there is no probability of improvement of the mental condition of the inmate, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be decided safest and most effective. But this operation shall not be performed except in cases that have been pronounced unimprovable."

DELEGATES TO A. M. A.

In order that Ohio should exercise that influence in the deliberations of the House of Delegates of the American Medical Association, to which she is justly entitled, it seems necessary that there should be some change in the manner of choosing, the personnel, and the time for which delegates are chosen. Let me remind you that in the Congress of the United States, no member, either in the Senate or House, is supposed to have any influence upon legislation during his first term. No man can become sufficiently well acquainted with the run of business in a single session to comprehend and master its intricacies. This is just as true of our Association, and no one knows this better than those who have served in this capacity. The result is that a very few men manage the affairs in the session of this august body, and the rest look on in helpless silence. The consequence is, that there is murmuring and dissatisfaction, and no one seems to be able to locate the difficulty or give any satisfactory account of the doings of the parent body. Fault is continually found and criticisms made in the conduct of the journal and all other business pertaining to the Association and no man is able to give to us a report of the true condition and management of our affairs.

To elect a delegate simply because a man has time to go, or cares for a junketing trip, or desires the honor if there be any honor in it, is not acting with business sense. To be a useful delegate requires sacrifice, requires careful attention to business, and he has no time for the scientific part of the program nor for pleasure. When this defect is remedied our state society will take its rightful place as a legislative entity and our membership will feel the inspiring influence of knowledge. The remedy which your executive officer feels justified in suggesting is that delegates should be elected for not less than four years, that two of the whole number to which we are entitled should be secretary of the state society and the chairman of the legislative committee, whose expenses should be paid. That in choosing the remaining number of the delegates the nominating committee should make diligent inquiry

and procure the best men who can promise continuous and faithful service.

AUDITING COMMITTEE.

Let me remind you that we are no longer a petty organization and that it is time we adopted business methods. We have grown from twenty-five men in 1846 to about five thousand in 1909. Our income and expenditures are no longer hundreds, but mount into the thousands of dollars. Therefore there should be an auditing committee instructed to employ a public accountant at a per diem compensation to make a detailed and itemized report in addition to that of the treasurer, for his protection as well as for the satisfaction of the entire membership.

INCREASE IN DUES.

It goes without saying that at the reorganization when the new constitution was adopted it was impossible to foresee the extent of our financial operations, and that the assessment of one dollar per capita on the membership of the component societies would not be sufficient to meet all contingencies. Every state association in affiliation with the American Medical Association, except in Alabama and Ohio, the dues are two dollars or more, and in the former state no journal is published. To remedy this state of things two methods are open to the House of Delegates: To change Section 1, Chapter 9, of the by-laws, or to make a special assessment for the year. It is my judgment that we ought to have an ample reserve fund for reasons above stated. The benefit accruing to every practitioner personally, to say nothing of the protection afforded the public, is whose interest we stand and for whom we are responsible, is out of all proportion to the pittance which it costs in money for membership in this society.

The year's work of the Ohio State Medical Society will end with the adjournment of this session. Each man for himself individually, each component association for itself, must answer for the work done for the profession and for humanity.

Looking at it from the broad point of view which comes from personal observation in many parts of the state it gives your presiding officer pleasure to say that the outlook for the future is good. The manifest literary activity is greater by far than in that of either or all of the other so-called learned professions. There is a general uplift not only in literary and professional attainments, but in character as well.

There is a determination apparent, through the machinery of the state board, to rid the profession of the unworthy and the immoral. Every county society possesses a powerful weapon of moral

suasion and restraint. The prospect of having a license revoked will cause any man to pause in a career of vice.

The State Board is to be commended for the proper exercise of this prerogative, in several instances, and I trust that the House of Delegates will make proper recognition of this action.

Any observer must see that there is a growing sentiment in the profession of personal obligation in the spread of temperance and the growth of civic righteousness. The public is no longer permitted to rest in ignorance and regard medicine as a mystery. Charlatans are hunted down and denounced.

Falsifying newspaper advertisements are discouraged, and there is ample evidence that the American Proprietary Association is feeling the force of the opposition. Whilst the secular press is still bad enough, there has been a marvelous change in the religious and church journals. Many of these which four years ago gave place to anything which applied for space are now entirely clean and carry no patent or proprietary medicine advertisements at all. There is not a church journal in the United States that has not felt the force of the opposition which began in this society a few years ago.

However, it is a lamentable fact that the medical journals in their advertising departments are not up to the standard which we have demanded of other publications. There is not a medical journal published in the state which is not open to criticism in this respect. The publishers are perhaps, not so much to blame, for the profession can always obtain what it demands and is willing to pay for. What is needed is an enlightened conscience and an earnest endeavor to be consistent.

There is no better time than the present to make new resolutions of reform, and the membership of no former House of Delegates has been more competent than is the present one to give expression to its sentiments regarding the several suggestions contained in this address.

RECTAL ANESTHESIA.

It is not intended for abdominal work within the peritoneum.

It is not intended for rectal work.

It is not desirable for long-continued vaginal work.

It is intended for operation about the head and neck, breast, and surface of the body.

It is a boon to operators in thyroid, mouth, throat, and any work where the anesthetizer is in the way.—C. F. Denny and L. S. Robinson in *The Journal of the Minnesota State Medical Association*.

MEETING OF THE HOUSE OF DELEGATES

The House of Delegates convened Wednesday morning at 11 o'clock, with President D. R. Silver in the chair.

Upon motion of M. D. Stevenson, duly supported, the reading of the minutes of the previous meeting was dispensed with.

Upon motion, duly supported, the chair was instructed to appoint a committee of three to take into consideration the various recommendations contained in the president's address. Such committee, as named, consisted of H. Bonner, J. A. Thompson and G. W. Ryall.

The chair appointed as a committee on amendments to the constitution Mr. D. Stevenson, C. E. Ford and W. W. Pennell.

The following were elected to act as a nominating committee:

First District—J. A. Thompson.
Second District—H. C. Haning.
Third District—David W. Steiner.
Fourth District—W. W. Brand.
Fifth District—Wm. E. Lower.
Sixth District—F. W. Gavin.
Seventh District—S. J. Podlewski.
Eighth District—H. G. Sutton.
Ninth District—J. S. Rardin.
Tenth District—G. O. Beery.

TREASURER'S REPORT.

Balance on hand January 1,	
1908	\$ 154 38
Amount received from dues...	3962 00
Amount received by subscription	5 00
Amount received from advertising	3234 07
	<hr/>
	\$7355 45
Amount paid out.....	7226 00
	<hr/>
Balance on hand January 1,	
1909	\$ 129 45
LEGISLATIVE FUND	
Amount received	\$1003 50
Amount paid out.....	886 47
	<hr/>
Balance on hand.....	\$ 117 03

Upon motion, duly supported, it was ordered that the report of the treasurer be referred to the auditing committee.

SECRETARY'S REPORT.

The secretary begs leave to submit the following report:

The last annual meeting was the largest in the history of the Association, over 600 members registering, and it is estimated that over 200 more were in attendance.

The membership reached in 1908 the total of 3962, a gain of 197 over the preceding year. This is the high water mark thus far, but it is to be hoped that a still greater increase may be noted for the current year.

All counties were in good standing except three,

Auglaize, Clermont and Hocking, of which the first and second have been reinstated during the current year.

The Secretary personally visited fifteen county society meetings and may report the general condition of these as indeed excellent. The tone and character of the reports and other communications sent to the Secretary's office would show a healthy general activity over almost the entire state.

The expenses of the year were rather unusually great, due in part to the special meeting in Columbus, the McCormack meetings in October and the increase in number of sections, entailing expenditures for stationery, etc., but especially for employing stenographers for reporting discussions at the annual meetings. Such reporters must needs be specialists or experts, and the cost for this at the present rate of six sections to be provided for, amounts to between three and four hundred dollars.

It would seem advisable to take this matter under consideration to see if each section could not help to provide in whole or in part for this expense.

Respectfully submitted,

J. H. J. UPHAM, Secretary.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

Owing to the short session of the General Assembly this year, medical legislation did not present the usual activity. The bill creating the office of Deputy State Health Officer for each county was prepared by joint action with the State Board of Health, but was not offered for enactment for the reason that after final consideration by the Attorney General of the state and our own legal adviser, the bill was decided to be unconstitutional for the reason that the county was required to pay for the services of an official whose appointment or election was removed from its authority. The special virtue compassed by this bill is the lodgment of the appointing power in the hands of sanitary authority. The public health service is so interlaced with partisan and legal difficulties that your Committee is unable, at this time, to offer a satisfactory measure. The present laws governing public health administration grant authority to the city council to abandon local boards of health. Many boards have thus been abolished and the public health interests placed in charge of service boards. Repeatedly bills amending these laws to correct political evil, have been introduced, but without effect. Renewed efforts will be made at the next session of the Legislature to place the board system on an independent basis.

The Optometry bill, providing for a State Examining and Licensing Board, was introduced in the Senate and referred to the Committee on Medical Colleges, before which a public hearing was given. Both sides were well organized. The discussion lasted two hours. We are under obligations to President Silver, W. H. Snyder, B. R. McClellan, Horace Bonner, F. W. Blake, and the Hon. Samuel H. West, our legal adviser,

who appeared before the Committee. The bill was not reported out of committee.

A bill to give authority to Boards of Education for the medical inspection of public school children was enacted. A copy of this law with comments was published in the April number of the Ohio State Medical Journal. On account of the amendments to the bill made at the time of its enactment the provisions of the law are made contradictory, and it is thought, unconstitutional. The measure was presented by the Cleveland Chamber of Commerce. The school inspection law as it now stands is weak and unsatisfactory, yet it serves the purpose of leading to an important public service. The law needs revision.

To Clyde E. Ford, appointed as a sub-committee, is due the credit and the diplomacy of prohibiting any attempt to introduce a bill looking to the creation of a state examining board for nurses.

Members of the State Committee appeared before Governor Harmon and requested that he appoint a physician to each of the boards of trustees of the state benevolent institutions. He has appointed S. P. Wise, of Millersburg, a trustee to the Ohio State Sanatorium at Mt. Vernon. State institutions which are neither penal, reformatory or educational, serve the purposes of state hospitals, and it is in the interest of public service that representatives of the medical profession should share the duty and the responsibility of properly conducting such institutions.

As a matter of public policy, the State Committee suggests that the House of Delegates adopt resolutions placing the Association in co-operation with the temperance movement in Ohio, by urging all members to comply with the intent of prohibition laws in exempting alcoholic preparations when prescribed for medicinal purposes. It also suggests that the House of Delegates recommend to the State Legislature the authorization of the establishment of a laboratory at the State University for the production of antitoxins and other laboratory products for the prevention and cure of disease.

Your Committee reiterates the defensive attitude necessary to be taken by the Association in order to protect the Medical Practice Act against the invasion of cults and classes who are constantly seeking recognition by the state for the favor of practicing medicine in some of its branches without proper qualification before the State Board.

Respectfully submitted (Signed),

J. W. Clemmer,
Geo. H. Matson,
W. H. Snyder,
D. R. Silver,
J. H. J. Upham.

REPORT OF PUBLICATION COMMITTEE.

The year 1908 concluded the fourth volume of The Journal. This volume contained 752 pages of reading matter, a gain of 44 pages over the preceding twelve months. In order to publish as nearly as possible all of the papers presented at the annual meeting, it was found necessary to either materially increase the number of pages or to use smaller type. It seemed advis-

able to your committee to choose the latter, and eight-point type therefore has been employed throughout, except for editorials. In this way a gain of 33 1-3 per cent in substance has been accomplished, yielding an actual increase of 87 pages of reading matter as compared with 1907.

MATERIAL.

There has been no change made in the appearance or make-up of The Journal. The paper was of the same fine quality, which is rather more expensive than ordinarily used in such journals, but is especially adapted for cuts or engravings.

Inasmuch, however, as sometimes there may be no cuts in a whole issue of The Journal, or but on one or two forms, it is planned to reserve the enameline, or higher grade paper, for the forms containing cuts or engravings, and use a slightly cheaper grade for the remainder. By this means in the year quite a saving in expense will be realized.

ORIGINAL ARTICLES

Volume IV contains 88 original articles, every one of which was presented at the annual meetings of the State Association.

Owing to the increase in number of the sections the number of papers presented at the annual meetings has increased very greatly, and it is a difficult problem to try to publish them all in the twelve months succeeding the meeting. Your committee has endeavored to group the articles, and to give representation in each issue to all the specialties and the various sections of the state without discrimination. It has been necessary to regretfully decline many very excellent papers sent to it, solely because it has been imperative to publish first the papers presented at the annual meeting, and there has been left no available space.

The character of the articles published has been uniformly high, and your committee feels that this department has maintained the high standards set by the founders of THE JOURNAL.

EDITORIALS

In the Editorial Department your committee has sought as heretofore to treat questions of the day of interest to members of the State Association, or organization work, legislative matters, scientific work and medical subjects in general.

In all, thirty-six editorials have appeared, covering a variety of subjects.

CORRESPONDENCE

Your committee regrets that greater use is not made of this department. It feels that it would be of value if the members would avail themselves of the opportunity to express their views more fully.

CURRENT MEDICAL LITERATURE

A large amount of abstracted material has appeared under this head, under the continued management of J. E. Tuckerman, of Cleveland, whose prompt and efficient services are greatly appreciated by your committee and commended to your favorable attention. It is to be hoped that the members have found use for the considerable amount of practical information in this department.

BOOK REVIEWS

The same policy has been followed in reviewing books as heretofore. An earnest effort is made to give an unbiased and accurate opinion as to the character and value of the books submitted.

Adverse criticisms have at times been necessary, and praise has been given where due. The entire object being to bring before our members the merits or demerits of the new books as they appear.

SOCIETY NEWS

Your committee is pleased to report still greater improvement in this department over last year. The amount of reported material has greatly increased, and it has been possible to bring out liberal abstracts of a large number of very excellent papers presented at the county and district meetings. We would point especially at the almost entire reports of addresses of Mr. Moynihan, of England, and Dr. Von Pirquet, of Vienna, brought out in these columns, besides many others too numerous to mention.

In reporting the society news we would especially commend the valuable services rendered by L. A. Levison, of Toledo, Fred Fletcher, of Columbus, and C. E. Ford, of Cleveland.

County secretaries are co-operating more than heretofore, and there are many still who neglect to take advantage of the opportunity presented. Some, we regret to say, send no notice whatever of their meetings; others send the bare notice, with the program. What is desired is an abstract of the papers presented. The editor has abstracted a large number of papers for this department, but it is impossible for him to do it all. It is far better for the writer of a paper to prepare the abstract so that he may incorporate the chief points he desires to bring out. We would therefore urge on each county society the passage of an amendment to the by-laws, as recently adopted by the Columbus Academy of Medicine, that "each essayist shall present with his paper an abstract of the same, which shall be forwarded to the editor of THE JOURNAL for publication."

MEDICAL ECONOMICS

Under this heading J. W. Clemmer has continued to present information along the practical sides of our profession. In these columns will be noted articles on the legislative, economic and ethical questions of the day, which should engage the interest of progressive physicians.

NEWS NOTES

The practice of publishing brief notices of current events of interest to the medical profession has been continued, and your committee would solicit the co-operation of the members of the Association in reporting to the editor any item which might be appropriate to this department.

ADVERTISEMENTS

In our advertising department the same policy has been maintained as heretofore. The restriction as to advertising and the financial stringency the past year has made the securing of advertising more than ordinarily arduous. We are glad to report that in this department, however, THE JOURNAL held its ground. While many contracts have been cancelled, sufficient new ones have

been secured to slightly more than equal the returns of the year preceding. This your committee feels is a good showing, considering the hard times of the past twelve months.

It is respectfully urged once more that the members of the Association co-operate and assist THE JOURNAL by patronizing our advertisers, mentioning THE JOURNAL in so doing, and assisting this committee by suggestions and recommendations in securing new business.

THE COST OF THE JOURNAL

The cost of THE JOURNAL has increased over the first two years, but has not increased over last year and will be decreased in the current year. Volume IV cost the Association, over and above receipts from advertising, \$2744.63, including the salary to the stenographer and editor.

The last volume of transactions, published in 1904, cost the Association \$1500. It contained forty-four original articles, and 2700 copies were distributed.

In Volume IV, eighty-eight original articles were published and 4000 copies distributed monthly. Your committee obtained an estimate for the production of a book of transactions similar to that of 1904, but of a size to contain the eighty-eight original articles published in THE JOURNAL, and for the increase in number of copies necessary for the present membership of the Association. The estimated price on such specifications is \$2550, which means that the Association has obtained for only \$194 additional all of the added material in THE JOURNAL, paying salaries, etc., as well.

Hoping that THE JOURNAL continues to meet your approval, and requesting the benefits of your suggestions and criticisms, this report is respectfully submitted.

(Signed) T. W. Rankin,
C. F. Clark,
C. S. Hamilton.

Chairman, J. H. J. Upham.

Horace Bonner made a motion, which was seconded and carried, that the reports of Dr. Clemmer and the secretary be received and that the report of Dr. Clemmer be referred to a committee for recommendations.

T. Clarke Miller made a motion, which was seconded, that the auditing committee be instructed, in addition to auditing the accounts for the past year, to act as an appropriation committee and ascertain from the treasurer and secretary what income we can reasonably expect, if they can approximate it, and apportion this to the different necessities of the society, that there would then be a fund for the Journal purposes and a fund for the different other purposes.

On motion by John A. Thompson the above motion was laid on the table.

REPORT ON NATIONAL LEGISLATION.

As your representative in the National Legislative Council, I beg to submit the following report:

It was my pleasure to attend the annual con-

ference of the committee on national legislation and the National Legislative Council, held in Washington, D. C., January 18-20, 1909.

The conference was fairly well attended, and there was a spirit of deep interest in all the questions of public health that came before it.

Charles A. L. Reed was re-elected chairman, and C. S. Bacon vice-chairman, Frederick R. Green secretary.

As the names of members present were called, each responded by giving a brief statement of present conditions of medical legislation in his state.

Dr. Reed, in his chairman's report, emphasized the necessity of national regulation of public health.

Dr. Green, in his report as secretary, covered the work of the committee and bureau of medical legislation for the past year, especially giving data relating to the uniform laws regulating the practice of medicine, the status of legislation on vital statistics and pure food laws.

The various committees made their reports, which were discussed and referred to the committee on conclusions and plans of action, which reported favorably the following: Senate bills enlarging the power and authority of public health and marine hospital service and providing for its personnel; the three bills relating to naval medical reorganization; recommended that the Bureau of National Legislation, through the columns of THE JOURNAL and the Bulletin, inform the medical profession that the U. S. public health and marine hospital service test all vaccine matter used in interstate commerce; endorsed House resolution for the relief of the widow of Dr. Wm. R. Miller; endorsed the work of the Bureau of Medical Legislation in securing data on which to base a uniform medical practice act; instructed the Bureau of Medical Legislation to continue its work for the adoption of a uniform vital statistics bill and expressed the thanks of the conference to Dr. Wilbur for his constant aid and co-operation; endorsed the report of the committee on uniform state laws on food and drugs, and extended the thanks of the conference to Mr. Allen and Dr. Bigelow; endorsed the work of Dr. H. W. Wiley, of the Bureau of Chemistry; endorsed the report of the special committee on expert medical testimony providing for the appointment of a special committee to draft a suitable law on this subject for presentation at the next session of the conference; finally, it endorsed the resolutions of Dr. Gay, of Massachusetts, opposing the passage of the so called optometry laws in the several states.

I am pleased to call attention to the report that President Taft has requested Surgeon General Wyman to draw up a tentative plan for the consolidation under one bureau of all agencies exercised by the federal government for the preservation of the public health. Upon these recommendations and those of other capable men, it is said, the President will base that part of his message to Congress next fall which will bear upon questions of public health.

In closing this report I desire to express my thanks to members of the Auxiliary Committee for their very prompt responses to requests for information. Also to J. W. Clemmer for his

uniform courtesy in supplying data as to legislative questions pending or enacted in our own state. And, finally, to express the hope that this House of Delegates will see its way clear to make the chairman of our state legislative committee the member of Ohio of the National Legislative Council, a move which will be in entire accord with the desire of the House of Delegates of the A. M. A.

Respectfully submitted,

(Signed) Ben R. McClellan.

The House of Delegates thereupon adjourned until Wednesday evening at 7:30.

Second session, Wednesday, 7:30 p. m., called to order by Vice-President F. F. Lawrence.

Dr. Brand, of Toledo, offered the following resolution, which was adopted:

WHEREAS, The monthly publication of birth lists in the hands of local registrars has caused great annoyance and injury to the general public; and,

WHEREAS, The publication of said lists may bring sorrow by advertising the unfortunate events in the lives of young girls. Be it

Resolved, That the Ohio State Medical Association approves the action taken by the state registrar of the bureau of vital statistics in requesting local registrars to prohibit the use of birth records in their possession as an advertising medium and undue publicity to unfortunate events.

Dr. Floyd, of Steubenville, offered the following resolution:

WHEREAS, County local option laws are in force in a large majority of the counties of the state; and,

WHEREAS, The Ohio State Medical Association stands for the public policy expressed in this temperance move for the moral and hygienic betterment of the people; and,

WHEREAS, The prohibition laws exempt the use of alcoholic preparations when prescribed by physicians for medicinal purposes; therefore, be it

Resolved, That the Ohio State Medical Association urge upon its members the observance of the intent and the letter of temperance laws in prescribing alcoholic preparations and recommend that physicians proved guilty of violating such laws be reported to the State Medical Board, with a view of having their license revoked on the charge of gross immorality.

After discussion by Drs. Lane, Freeman and Fackler against the adoption of the resolution, and by Drs. Floyd, Kimmel and Lane in favor of the resolution, a motion to lay on the table was carried.

H. C. Haning, of Dayton, offered a proposed amendment to the by-laws, by adding section 4, to Chapter X, as follows:

There shall be a standing committee on auditing and appropriation, whose duty it shall be to audit the accounts of the treasurer and to appor-

tion the estimated income for the coming year to the several features of estimated necessary expenditures. Any surplus or balance in any fund at the end of the year shall go into the general fund for re-apportionment. Money not especially appropriated shall be known as the contingent fund and may be drawn upon for unforeseen emergencies on an order from the council approved by the president and secretary of the Association.

The chair explained that such an amendment must lie over twenty-four hours, and it would therefore be held over until tomorrow.

Adjournment was then had.

Thursday, 2:30 o'clock, President D. R. Silver in the chair.

After roll call, the chair announced that a quorum was present.

The nominating committee then presented their nominations, and the election was proceeded with, with the following result:

President.—W. H. Snyder, Toledo.

First Vice-President.—H. R. Geyer, Zanesville.

Second Vice-President.—A. S. Rudy, Lima.

Third Vice-President.—C. A. Hough, Lebanon.

Fourth Vice-President.—T. M. Sabin, Warren.

Councilor for First District.—R. Carothers, Cincinnati.

Councilor for Sixth District.—T. Clarke Miller.

Committee on Public Policy and Legislation.—

J. W. Clemmer, Geo. H. Matson, C. O. Probst.

Committee on Publication.—Frank Winders, J. E. Brown.

Member of Committee on National Legislation.—B. R. McClellan.

Chairman Central Secretary's Committee.—J. H. Seiler, Akron.

Delegates to A. M. A.—J. H. J. Upham, J. W. Clemmer, R. B. Hall, W. D. Deuschle, W. E. Lower, A. F. House.

Alternates.—H. P. Pomerene, O. M. Wiseman, E. H. Porter, Mark Millikin, J. J. Silbaugh, John Ray.

The secretary read a communication from Horatio C. Wood, president of the United States pharmacopoeial convention, inviting the several bodies entitled under the constitution to representation therein to appoint delegates to the first decennial meeting of the said convention, to be held in the city of Washington, May 10, 1910.

Upon motion by S. P. Kramer, the chair was empowered to appoint three delegates from the Ohio State Medical Association to said convention.

S. P. Kramer, of Cincinnati, offered the following resolution, which, upon motion, duly supported, was laid on the table:

Resolved, That the Ohio State Medical Association deprecates the action of the State Medical Board in failing to provide for examination for license to practice medicine and surgery in

the cities of Cincinnati, Cleveland and Toledo, as provided by law.

Resolved, That a copy of this resolution be sent to the State Medical Board and to the Governor of Ohio.

On motion of S. P. Kramer, of Cincinnati, duly supported, the following resolution was adopted:

WHEREAS, The American Health League in Ohio, as the state organization of the Committee of One Hundred on National Health, which is composed of men and women having an interest in and working in various ways for social and economic betterment, has for its objects the establishment under one head of the various health agencies at Washington, the protection of the populace from stream contamination, the dissemination of knowledge concerning the prevention of infectious diseases, the teaching of the doctrines of personal hygiene and waging a campaign generally against preventable death and disease; and,

WHEREAS, These things are also a part of the campaign of the Ohio State Medical Association; therefore, be it

Resolved, That the Ohio State Medical Association, in annual convention assembled, endorse the principles and work of the American Health League in Ohio and urge all members of the profession to co-operate in every way possible with said organization to bring about the objects which it is formed to promote.

The following resolution was presented and adopted, on motion, duly supported:

WHEREAS, Our public institutions have been and are ostensibly for the purpose of care and treatment of their inmates and also for the protection of the public and property; and,

WHEREAS, They have, contrary to the intention of their founders, been debauched and prostituted from their original intention and made the means of paying public and private party debts to the injury of their inmates, to the retardation and prevention of the restoration of their normal mental and physical conditions. The same being a disgrace to this great state and a crying evil upon the body politic of Ohio; that this is a shame to the profession of medicine in this great state; therefore, be it

Resolved, By the representatives of the Eighth Medical District of Ohio in committee assembled, That we feel that to the medical profession devolves the initiative of any reform of our eleemosynary institutions for the reason that they are the only body of citizens that can sit in concert intelligently and without selfishness.

Resolved, further, That we as physicians feel that it is not a work of economy to curtail the necessary expenditure of public money for the proper care and treatment of the physical and mental conditions of the wards of the state so that they may the sooner be restored to health and home. Be it further

Resolved, That we feel that the present manner of conducting our state eleemosynary institutions is a great waste of public money and useless sacrifice of the lives and health of the wards

trustingly placed in the hands of the state by their friends and courts of law.

Resolved, further, That it is an economic principle acknowledged by all political economists that the wealth of a state consists in the number of its able-bodied men and women, and that it is the duty of the state to make use of all means within its power to prevent sickness and infirmities among its citizens.

Resolved, further, That we feel that it is but just to ask the great State of Ohio to give as good care to those of her citizens entrusted to its institutions as can possibly be given at any private institution.

Resolved, That we feel that in this enlightened age, when so many advances have been made and are being made in the treatment of all physical, mental and nervous diseases, that it is incumbent upon the State of Ohio to keep in the vanguard of the world in providing all the best and latest equipment for the use of her institutions in the treatment and care of their inmates.

Resolved, That we present this report to the State Medical Association at its meeting to be held in Cincinnati, Ohio, in the first week of May, 1909, and that we urge earnestly by our presence the Association to take action upon it.

(Signed) M. T. McTeague, Chairman.
B. R. LeRoy, Secretary,
Chas. S. McDougall,
Wm. R. Dabnev,
J. P. Stedham.

An invitation was extended on behalf of the Academy of Medicine of Toledo, Ohio, to the Ohio State Medical Association to meet in that city next year, which invitation was duly accepted.

The secretary read a communication from the Bureau of Medical Legislation of the American Medical Association, stating the deplorable financial condition of the widow of Major James Carroll and inviting contributions, which may be sent to Major M. W. Ireland, office of Surgeon General, War Department, Washington, D. C., the contributions to be acknowledged in the Journal of the A. M. A.

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

H. Bonner, as chairman of the committee appointed by the chair to consider recommendations contained in the president's address, made the following report, which was adopted as read:

Your committee appointed to consider the recommendations of the president reports as follows:

(1) We recommend that the matter of optometry legislation be left in the hands of the Committee on Public Policy and Legislation, which has so ably handled it heretofore.

(2) In regard to ophthalmia neonatorum we recommend that the House of Delegates pass a resolution recommending the work of the Commission for the Blind in their labors to prevent

the occurrence of this scourge, and that the councilors be instructed to have the importance of this work placed before the county societies in their respective districts in properly prepared papers.

(3) We most heartily commend the recommendation that each county society in the state take up the consideration of the tuberculosis question and carefully appoint a committee to guide the laity in the formation of a tuberculosis society.

(4) In regard to vasectomy, we recommend that a committee of three be appointed, of which the president shall be chairman, to take up and carefully consider this matter and report to the House of Delegates at its next meeting.

(5) In regard to the recommendation which the president made in regard to the election of delegates to the American Medical Association, I will read you what he says:

"The remedy which your executive officer feels justified in suggesting is that delegates should be elected for not less than four years, and that two of the whole number to which we are entitled (which number is six) should be the secretary of the state society and the chairman of the legislative committee, who should be ex-officio members of this number of delegates, whose expenses should be paid."

The committee, in considering this matter, did not have before them the constitution and by-laws of the American Medical Association and so could not see whether this would agree with that or not and did not know about it. In the second place, it seemed to them that the secretary of the state society and the chairman of the legislative committee, being members ex-officio, the time of their service might not correspond to that of the election of the other delegates, and, therefore, there might be confusion. At the same time, the committee heartily recommends the idea that delegates should be elected for a much longer term of service.

The matter of auditing accounts has been brought before you in an amendment, which is recommended for passage.

The same can be said in regard to the tax and dues. Respectfully submitted,

H. Bonner,
J. A. Thompson,
G. W. Ryall.

SPECIAL ASSESSMENT

The following resolution was read by the secretary and adopted upon motion, duly supported:

Under authority of Article 9 of the Constitution (page 5):

Resolved, That an assessment of fifty (50) cents per capita is hereby levied on each component county society in order to provide for expenses which have necessarily been incurred over and above the amount of funds in the hands of the treasurer, and that the secretary of this Association is instructed to notify the secretary of each county society of this action.

AMENDMENT TO BY-LAWS.

The Amendment Committee reported favorably on the amendment to by-laws, Section 4, Chapter X, and it was adopted.

There shall be a standing committee on auditing and appropriation, whose duty it shall be to audit the accounts of the treasurer and to apportion the estimated income for the coming year to the several features of estimated necessary expenditures. Any surplus or balance in any fund at the end of the year shall go into the general fund for re-apportionment. Money not especially appropriated shall be known as the contingent fund and may be drawn upon for unforeseen emergencies on an order from the council approved by the president and secretary of the Association.

PROPOSED AMENDMENT TO BY-LAWS

Resolved, That section 1, chapter 10, of the by-laws be amended as follows: In the first line strike out "one dollar" and insert "one dollar and fifty cents."

This amendment to lay over until next meeting.

The president explained that on account of unusual need for expenditures in the past year the nearly exhausted condition of the legislative fund and the need for more money to carry on such very important work as retaining a legal advisor in legislative work, it seemed necessary to provide for more funds in the treasury. He also referred to the attack recently made upon the American Medical Association and appointed a special committee consisting of W. E. Lower, of Cleveland, B. R. McClellan and Mark D. Stevenson, of Akron, to make report with reference thereto the following day or at the next meeting of the House of Delegates.

The House of Delegates then adjourned sine die.

The following section officers were elected for the following year:

SECTION ON MEDICINE

Chairman—John Dudley Dunham, Columbus.
Secretary—J. Willard Stone, Toledo.

SECTION ON SURGERY

Chairman—Robert Carothers, Cincinnati.
Secretary—Wm. A. Ewing, Dayton.

SECTION ON OBSTETRICS AND PEDIATRICS

Chairman—William Gillespie, Cincinnati.
Secretary—Frank Lamb, Cincinnati.

SECTION ON EYE, EAR, NOSE AND THROAT

Chairman—D. W. Green, Dayton.
Secretary—Wade Thrasher, Cincinnati.

SECTION ON DERMATOLOGY, GENITO-URINARY SURGERY

AND PROCTOLOGY

Chairman—Wells Teachnor, Columbus.
Secretary—Charles Melvin Harpster, Toledo.

SECTION ON NERVOUS AND MENTAL DISEASES

Chairman—Chas. D. Mills, Marysville.
Secretary—S. P. Fetter, Portsmouth.

MEMBERS REGISTERED AT CINCINNATI MEETING.

G. L. Altmeier, Cincinnati; S. C. Ayers, Cincinnati; Samuel E. Allen, Cincinnati; Katherine Astler, Elmwood Place; J. B. Alcorn, Gallipolis; C. C. Agin, Cincinnati; Frank Allport, Chicago, Ill. (guest); H. Aufmwasser, Covington, Ky.; J. B. M. Andre South Webster; C. S. Alexander, Oxford; F. P. Anzinger, Springfield; Valloyd Adair, Massilon; G. H. Astler, Elmwood Place; John G. Albers, Fulda; L. D. Allard, Portsmouth; H. B. Anderson, Newark.

Howard B. Brundage, Columbus; C. M. Bars-ton, Bryan; Frank D. Bain, Kenton; A. J. Bell, Cincinnati; W. S. Bookwalter, Miamisburg; A. J. Bausman, Pleasant Hill; H. Bamberger, Toledo; G. O. Beery, Lancaster; W. W. Brand, Toledo; G. H. Baker, Cincinnati; D. H. Biddle, Athens; B. F. Beebe, Cincinnati; M. A. Bartley, Columbus; R. S. Bell, Springfield; Henry Wald Bettman, Cincinnati; Arthur Bauer, Cincinnati; M. L. Bates, Cincinnati; D. S. Bowman, Akron; S. O. Barkhurst, Stubenville; W. N. Bragg, Reading; R. E. Burdsall, Seven Mile; C. A. Bennett, Withamsville; J. C. Beck, Chicago, Ill. (guest); H. H. Byall, Montpelier; O. W. Butler, Cincinnati; H. A. Brown, Cincinnati; E. M. Brown, Amelia; S. V. Burley, Lorain; H. R. Brown, Chillicothe; H. L. Burdsall, Hamilton; J. M. Brooke, Sherwood; M. A. Brown, Cincinnati; E. C. Briggs, Wilmington; A. H. Beam, Hillsboro; B. H. Blair, Lebanon; A. R. Baker, Cleveland; Francis W. Blake, Columbus; E. S. Breese, Dayton; C. M. Bausman, Bradford; B. F. Barnes, Newark; F. F. Bunts, Cleveland; Horace Bonner, Dayton; James U. Barnhill, Columbus; C. L. Bonifield, Cincinnati; Mary Miller Battels, Ashtabula; A. A. Bradford, Bremen; Richard A. Boit, Cleveland; J. S. Beck, Dayton; R. A. Bunn, Dayton; F. Dale Barker, Dayton; E. J. Barnes, Granville; J. F. Balte, Cincinnati; Fred Bacharach, Cincinnati; T. F. Bliss, Springfield; E. E. Bohlander, Dayton; L. G. Bowers, Dayton; A. D. Berchard, Cincinnati; Oscar Berghausen, Cincinnati; J. B. Ballenger, Bradford; Wm. Evans Bruner, Cleveland; N. Worth Brown, Toledo; J. E. Brown, Cincinnati.

Geo. W. Crile, Cleveland; L. M. Cusher, Cincinnati; G. E. Combs, Ostrander; W. H. Campbell, ———; T. J. Cunningham, Toledo; C. B. Conwell, Cincinnati; A. Melville Crane, Marion; D. V. Courtright Circleville; J. Francis Conneffe, Columbus; W. J. Conklin, Dayton; G. R. Conard, New Vienna; Robert B. Cofield, Cincinnati; A. H. Carr, Reading; C. E. Caldwell, Cincinnati; Otis L. Cameron, Cincinnati; H. T. Clark, Rarden; Lily F. Carpenter, Cincinnati; J. J. Cook, Cincinnati; J. M. Carpenter, Cincinnati; I. A. Caldwell, Cincinnati; A. F. Clark, Vinton; H. C. Cragg, Cincinnati; C. F. Clark, Columbus; Robert Carothers, Cincinnati; A. P. Cole, Cincinnati; M. L. Cook, Waynesville; A. C. Carney, Hamilton; C. G. Crisler, Cincinnati; R. Harvey Cook, Oxford; F. S. Clark, Cleveland; C. E. Case, Ashtabula; E. A. Curry, Cincinnati; H. M. Chaney, Sardinia; A. F. Cook, Sandusky; M. M. Corwin, Savona; Arch I. Carson, Cincinnati; T. C. Crawford, Peebles; G. F. Cook, Oxford; Robert Conard, Blanchester; W. C. Clay, Convoy; L. G. Cromer, Union City, Ind. (guest);

J. W. Clemmer, Columbus; T. B. Cable, Pemberton; D. B. Conklin, Dayton; S. K. Cristy, Willshire; L. E. Cook, Cincinnati; Frank B. Cross, Cincinnati; S. E. Cone, Cincinnati; N. R. Coleman, Columbus; Hugh W. Chaney, Sugartree Ridge; J. Robert Caywood, Piqua; Warren Coleman, Troy; H. J. Cook, Cincinnati; N. W. Cowden, Germantown.

James A. Duncan, Toledo; T. W. Duval, Lynchburg; J. D. Davis, Cincinnati; N. P. Dandridge, Cincinnati; John Dudley Dunham, Columbus; J. P. DeWitt, Canton; May Dreyfoos, Cincinnati; D. J. Davies, Hamilton; Louis Doinhoff, Cincinnati; E. A. Dye, South Vienna; George P. Dale, Dayton; Francis W. Davis, Cincinnati; W. D. Deuschle, Columbus; James Donnelly, Toledo; T. H. Dickinson, Germantown; M. L. Downing, Rockford; H. H. Drysdale, Cleveland; A. G. Drury, Cincinnati; Kenon Dunham, Cincinnati; Chas. W. Dahlenburg, Toledo; Ralph P. Daniells, Toledo; Wm. R. Dabney, Marietta; F. R. Dew, Belle Valley; U. S. Grant Deaton, Toledo; T. A. Dickey, Middletown; J. A. Davisson, Dayton; Wm. C. Davis, Columbus; O. B. Dunn, Ironton; H. J. Death, Franklin; W. H. Delscamp, ———; J. W. Dodds, Cincinnati.

Wm. A. Ewing, Dayton; Paul D. Espey, Port William; Geo. B. Evans, Dayton; F. B. Entriakin, Findlay; J. H. Eichberg, Avondale; J. C. Easton, Springfield; Edward Edwards, Delphos; J. N. Ellison, Sardinia.

F. F. Fledderjohann, New Bremen; A. B. Frame, Piqua; T. V. Fitzpatrick, Cincinnati; Alfred Friedlander, Cincinnati; W. L. Faul, Russellville; S. D. Foster, Toledo; W. L. Furste, Cincinnati; C. E. Ford, Cleveland; S. M. France, Midvale; A. W. Francis, Ripley; J. C. M. Floyd, Steubenville; Frank D. Ferman, Toledo; C. C. Fihe, Cincinnati; Albert Freiberg, Cincinnati; E. Fayer, Cincinnati; C. A. Files, Van Wert; C. A. Tribbet, Westboro; H. E. Fledderjohann, New Knoxville; Fred Fletcher, Columbus; John Frances, Hamilton; J. M. Firmin, Findlay; W. H. Finley, Xenia; M. H. Fletcher, Cincinnati; E. B. Foltz, Akron; J. L. Fomorin, Marathon; O. O. Fordyce, Athens; Starr Ford, Cincinnati; G. A. Fackler, Cincinnati; S. P. Fetter, Portsmouth; J. F. Fisher, Sabina; Albert Fallor, Cincinnati; E. A. Fisher, Yorkshire.

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W. D. Hancock, Hamilton; W. E. Howell, Rio Grande; E. G. Husted, Greenville; Ralph W. Holmes, Chillicothe; Eason Holbrook, Lebanon; D. C. Houser, Urbana; Carl Hiller, Cincinnati; A. W. Holman, Circleville; A. F. House, Cleveland; D. W. Hogue, Springfield; C. A. Hough, Lebanon; M. L. Heidingsfeld, Cincinnati; W. C. Herman, Cincinnati; L. P. Hottendorf, Cincinnati; J. L. Henry, Athens; C. V. Hoover, Cleveland; H. H. Hines, Cincinnati; D. S. Heyn, Cincinnati; C. F. Hegner, Cincinnati; W. A. M. Hadley, Springfield; G. C. Hamilton, Louisville; E. Hahn, Leetonia; S. S. Halderman, Portsmouth; G. W. Haile, Cincinnati; C. S. Hoover, Alliance; H. H. Hatcher, Dayton; C. M. Harpster, Toledo; C. E. Held, Akron; J. A. Hall, Cincinnati; J. W. Hughey, Washington C. H.; E. A. Hamilton, Columbus; F. A. Heckler, Columbus; W. D. Hamilton, Columbus; R. B. Hall, Cincinnati; C. H. Humphreys, Dayton; H. C. Hanning, Dayton; D. C. Handley, Cincinnati; D. B. Hamilton, Mason; H. B. Harris, Dayton; R. E. Holmes, Leesburg; G. Hauser, Cincinnati; C. E. Huston, Rushsylvania; L. S. Heyn, Cincinnati; Z. L. Henry, Ft. Thomas, Ky.; C. H. Heisel, Cincinnati; W. D. Haines, Cincinnati; C. T. Haverfield, Urichsville; James F. Heady, Glendale; L. P. Howell, Washington C. H.; E. M. Huston, Dayton; C. B. Hatch, Newark; J. D. Hartzell, North Star; C. Haarlamert, Loveland; J. E. Hunter, Greenville; Chas. F. Hunt, Miamisburg; Chas. Huber, Harrison; O. E. Hauser, Cincinnati; J. H. Huntley, Lima; M. F. Husey, Sidney; L. H. Hughes, Denison; F. G. Hornung, Hamilton; R. B. Hannah, Georgetown; W. H. Henry, Hamden Junction; S. D. Hartman, Tippecanoe City; C. A. Howell, Columbus.

F. A. Ireton, Newtonsville; J. M. Ingersoll, Cleveland; C. E. Iliff, Cincinnati; E. C. Ireton, Marathon; A. B. Isham, Cincinnati; S. A. Ireland, Washington C. H.; Samuel Iglauer, Cincinnati; W. E. Ireland, Washington C. H.

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Henry Krone, Hamilton; W. E. Kiely, Cincinnati; G. G. Kineon, Gallipolis; L. G. Klepinger, Dayton; S. P. Karmer, Cincinnati; C. C. Kirk, Toledo; J. C. Kintz, Cincinnati; E. T. Knoop, Cincinnati; L. S. Krauss, Middletown; C. F. Kline, Portsmouth; A. G. Kreidler, Cincinnati; Lester Keller, Ironton; F. C. King, Cincinnati; F. B. Kaylor, Bellefontaine; J. R. King, Cincinnati; Wm. S. Keller, Cincinnati; E. S. Koons, Glouster; J. D. Kramer, Dayton; W. C. Kendig, Cincinnati; R. Kennedy, Laurel; G. S. Krieger, Madisonville; J. A. Kimmell, Findlay; G. H. Knapp, Cincinnati; J. G. Keller, Toledo; J. A. Knight, Orient; C. W. King, Dayton; L. F. Krouse, Cincinnati; F. M. Kent, Bellevue; E. M. Keefe, Cincinnati; J. Keyser, Cincinnati; A. L. Knight, Cincinnati; J. W. Kautz, Cincinnati; F. L. Keifer, Columbus; J. W. Kerr, Washington D. C. (guest); F. E. Keller, Lebanon.

Frederick W. Lamb, Cincinnati; J. H. Landis, Cincinnati; G. D. Lummis, Middletown; F. F.

Lawrence, Columbus; S. H. Large, Cleveland; E. W. Love, Fayetteville; James F. Lee, Mt. Vernon; L. H. Landman, Cincinnati; W. I. LeFevre, Cleveland; P. D. Longbrake, Marysville; Chas. Lukens, Toledo; F. H. Lever, Loveland; S. A. Laughlin, Aberdeen; Sidney Lange, Cincinnati; F. C. Larimore, Mt. Vernon; W. F. Lauterbach, Dayton; F. H. Lamb, Cincinnati; W. B. Laffer, Cleveland; S. F. Lyle, Cincinnati; C. P. Linhart, Columbus; C. A. Langdale, Cincinnati; John H. Lowman, Cleveland; W. E. Leever, Owensville; Wm. E. Lower, Cleveland; R. C. M. Lewis, Marion; A. L. Light, Dayton; M. J. Lichtv, Cleveland; L. A. Levison, Toledo; Starling Loving, Columbus; R. J. Littleton, Stout; F. W. Lane, Cambridge; F. W. Langdon, Cincinnati; W. E. Lewis, Cincinnati; L. H. Leonard, Mt. Orab; J. H. Lowe, Piqua; Wesley Love, Higginsport; Inez Lapsley, Cincinnati; W. A. Lucas, Middletown.

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A. W. Nelson, Cincinnati; C. A. Neal, Norwood; G. B. Nessley, Grove City; Lockhart Nelson, Hillsboro.

J. C. Oliver, Cincinnati; C. W. Osborn, Norwood; A. E. Osmond, Cincinnati; C. S. Ordway, Toledo; F. M. Oxley, Hyde Park; H. B. Ormsby, Cleveland; W. A. Ort, Springfield; N. P. Oglesby, Columbus; O. U. O'Neil, Ironton; M. A. O'Hare, Cincinnati; David O'Brien, Urbana.

B. W. Patrick, Toledo; W. B. Patton, Springfield; D. P. Phelps, Kenton; C. L. Patterson, Dayton; John Phillips, Cleveland; W. H. Parker, Wellston; S. J. Podlewski, Steubenville; M. B. Pomerene, Berlin; E. S. Protzman, Kenton; Wm. D. Porter, Cincinnati; W. H. Perry, Van Wert; C. D. Palmer, Cincinnati; E. H. Porter, Tiffin; C. O. Probst, Columbus; W. W. Pennell, Mt. Vernon; C. A. Portz, Baltic; H. M. Platter, Columbus; C. F. Powell, Dayton; Joseph Price, Columbus; M. Porter, Dayton; W. O. Pauli, Cincinnati; J. E. Pirrung, Cincinnati; F. H. Pugh, Bryan.

L. A. Querner, Cincinnati.

J. S. Rardin, Portsmouth; Wm. O. Roop, Dayton; B. M. Ricketts, Cincinnati; Joseph Ransohoff, Cincinnati; Edwin D. Ricketts, Cincinnati; Allen Ramsey, Cincinnati; O. W. Robe, Portsmouth; H. D. Rinehart, Dayton; M. V. Replogle, Bryan; C. A. L. Reed, Cincinnati; C. B. Reid, Van Wert; A. Ravogli, Cincinnati; J. M. Rattiff, Dayton; W. E. M. Ranchous, Columbus; A. C. Roberts, Morrow; Hunter Robb, Cleveland; J. U. Riggs, Bryan; J. H. Ray, Coalton; D. G. Reilly, Dayton; James M. Rector, Columbus; D. W. Rumbaugh, Chicago; A. S. Rudy, Lima; D. H. Richardson, Celina; Wm. H. Rike, Versailles; R. C. Rind, Springfield; T. M. Reade, Springfield; Geo. W. Ryall, Wooster; C. B. Rogers, College Hill; J. L. Ransohoff, Cincinnati; M. M. Romine Harveysburg; A. R. Renneker, Cincinnati; C. G. Randall, Harveysburg; F. L. Ratterman, Cincinnati; W. G. Rhoten, Mowrystown; H. S. Reger, Ironton; J. A. Rowe, Cincinnati; L. F. Roush, Pomeroy; D. A. Rannels, Logan; G. E. Robbins, Chillicothe; F. W. Roush, National Military Home; Wm. Roush, Lima; H. C. Robinson, Cincinnati.

S. H. Smith, Cincinnati; O. T. Sproull, West Union; C. VonSchlee, Jacksonville; O. H. Saunders, Findlay; C. L. Spohr, Columbus; R. R. Shank, Trotwood; P. M. Sater, Hamilton; C. E. Silbernagel, Columbus; A. F. Shepard, Dayton; A. G. Sherman, Cleveland; P. D. Shriner, Columbus; J. Q. Southard, Marysville; H. A. Snorf, Greenville; Harry Silver, Hamilton; A. F. Spurney, Cleveland; W. S. Scott, Chillicothe; H. M. Schaufell, Canton; Frank L. Stillman, Columbus; A. D. Stapleford, Cincinnati; C. W. Sawyer, Marion; W. S. Smith, Dayton; Wm. E. Shackelton, Cleveland; S. C. Swartsel, Cincinnati; D. W. Steiner, Lima; C. G. Speidel, Cincinnati; G. W. Smeltz, Bryan; Chas. J. Shepard, Columbus; G. Strobach, Cincinnati; Geo. O. Stokes, Pleasant Ridge; R. E. Lee Steiner, Salem, Oregon (guest); W. J. Stone, Toledo; H. V. Spargur, Cincinnati; F. D. Snyder, Ashtabula; J. O. Starr, Pittsburg; C. W. Stroup, Somerville; W. E. Schenck, Cincinnati; C. F. Souther, Cincinnati; J. M. Stroup, Mt. Orab; G. L. Stein, Columbus; E. O. Strahely, Cincinnati; H. P. Shelton, Georgetown; K. L. Stoll, Cincinnati; F. G. Steuber, Lima; G. W. Snively, West Lebanon; E. W. Spittler, West Lebanon; Robert Stevenson, Cincinnati; D. W. Stevenson, Richmond, Ind. (guest); G. A. Sulzer, Portsmouth; A. A. Starner, Galion; D. R. Silver, Sidney; Byron Stanton, Cincinnati; H. T. Sutton, Zanesville; G. C. Schaeffer, Columbus; Ernest Scott, Columbus; F. U. Swing, Cincinnati; A. L. Sherrick, Ashland; Martin Stamm, Fremont; E. S.

Stevens, Lebanon; C. N. Smith, Toledo; Wm. E. Shaw, Cincinnati; T. Sherwood, Waynesville; M. Salzer, Cincinnati; C. W. Salisbury, Dayton; A. B. Swisher, Marysville; W. H. Stix, Cincinnati; C. D. Slagle, Centerville; L. L. Eyman, Springfield; E. O. Smith, Cincinnati; J. F. Sheffield, Cleveland; Geo. Stockton, Columbus; M. D. Stevenson, Akron; J. E. Steuber, Cincinnati; J. Henry Schroeder, Cincinnati; A. Schwagmeyer, Cincinnati; R. W. Stewart, Cincinnati; Wm. H. Strietman, Cincinnati; R. M. Shannon, Piqua; G. S. Straub, Cincinnati; I. P. Seiler, Piketon; Louis Schwab, Cincinnati; Young Stephenson, Georgetown; W. H. Snyder, Toledo; W. E. Sampliner, Cleveland; E. H. Shields, Cincinnati; A. J. Strain, London; Jesse Snodgrass, Kenton; Wm. F. Shippe, Middletown; Louis Stricker, Cincinnati.

M. A. Tate, Cincinnati; J. H. Thesing, Cincinnati; E. H. Thompson, Cincinnati; T. R. Terwilleger, Lima; C. A. Teeters, Washington C. H.; F. C. Theiss, Cincinnati; S. S. Tuttle, Van Wert; J. R. Tillotson, Delphos; A. J. Timberman; Columbus; J. J. Thomas, Cleveland; J. L. Tracy, Toledo; C. E. Thompson, Cincinnati; B. D. Titlow, Springfield; W. C. Taylor, Springfield; Wells Teachnor, Columbus; Wade Thrasher, Cincinnati; J. E. Tuckerman, Cleveland; W. R. Thompson, Troy; J. L. Teuchter, Cincinnati; A. B. Thrasher, Cincinnati; J. B. Thrasher, Cincinnati; J. A. Thompson, Cincinnati; R. B. Tate, Oxford; R. H. Trimble, Mt. Sterling; R. W. Thomas, Cincinnati; L. G. Tedesche, Cincinnati; C. E. Trimble, Crestline.

J. H. J. Upham, Columbus.
Wm. B. Van Note, Lima; D. T. Vail, Cincinnati.

D. I. Wolfstein, Cincinnati; K. S. West, Cleveland; F. C. Weaver, Dayton; W. E. Wright, Newark; G. H. Williams, Columbus; L. E. Wills, Omega; A. A. Wickoff, Decatur; C. L. Westheimer, Cincinnati; F. L. Watkins, Columbus; J. S. Wyler, Cincinnati; G. W. Wire, Wilmington; L. A. Woolf, Ravenna; B. M. Weakley, Cincinnati; Frank Warner, Columbus; W. E. Williams, Jackson; Yeatman Wardlow, Columbus; E. A. Wolf, Denison; S. J. Wright, Akron; Frank Winders, Columbus; S. S. Wilson, Xenia; O. P. Wolverton, Greenville; C. F. Winton, Cincinnati; J. D. Wakefield, Loveland; S. S. Wilcox, Columbus; A. C. Wintermeyer, Covington, Ky.; L. Woodruff, Columbus; I. M. Wright, Franklin; J. H. Williamson, Georgetown; J. M. Withrow, Cincinnati; H. W. Weitz, Montpelier; F. O. Wright, Wilmington; Dudley Webb, Cincinnati; Frederick L. Wilson, S. Solon; T. M. Wright, Troy; H. J. Whitacre, Cincinnati; H. I. Woodburn, Cincinnati; Marion Whitacre, Cincinnati; B. C. Willis, Cincinnati; Elizabeth M. Weaver, Akron; H. L. Woodward, Cincinnati; H. E. Welch, Youngstown; F. P. Witham, Withamsville; D. E. Weaver, Cincinnati; D. A. Williams, Cincinnati; Geo. M. Waters, Columbus; Dana O. Weeks, Marion; Millard Wallenstein, Cincinnati; J. O. Wickerham, Seamen; J. S. Wiseman, Ironton; A. B. Walker, Canton; R. C. Wise, Millersburg; E. K. Wolf, Newtonsville; W. P. Weaver, Miamisburg.

H. Y. Yaggi, Salem; L. A. Yocum, Wooster; E. A. Yates, Sidney.

G. F. Zininger, Canton; E. Gustave Zinke, Cincinnati; Philip Zenner, Cincinnati; H. Rush Zeller, St. Paris.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

ARGYROL OR PROTARGOL SAFER THAN SILVER NITRATE IN TREATMENT OF OPHTHALMIA NEONATORUM.

Cheney (Boston Med. and Surg. Jour., March 4, 1909, p. 269) finds argyrol, 25 per cent, or protargol, 10 per cent, much less irritating to the conjunctiva than one to two per cent silver nitrate solutions. His statistics show that ophthalmia developed much less frequently when the former solutions were used as a prophylactic, and that if silver solution is to be used it should be less than two per cent strength. Ease of application is also important. "In applying nitrate of silver, it is necessary to evert the upper lids, and this is not easy of accomplishment in a newborn babe. A man not experienced in this manipulation stands a fair chance of abrading the cornea, and infection and ulceration will be the probable result. There is also the danger of corneal injury from a too free use of this remedy. These two possibilities should, I believe, contraindicate the use of nitrate of silver in ophthalmia

neonatorum except by men of experience in the treatment of diseases of the eye. It requires no special experience, however, to use a ten per cent solution of protargol or a 25 per cent solution of argyrol. It is not necessary to evert the lids, for these remedies can be dropped into the eye like any ordinary collyria and they can be used freely, and as often as once in four hours."

PROPHYLAXIS IN ACIDOSIS FOLLOWING ANESTHESIA.

By Drs. F. H. Wallace and E. Gillespie (The Lancet, Dec. 5, 1908, p. 1665).

Following the suggestions of Beesley and Beddard, on the use of sodium bicarbonate and glucose, respectively, for acidosis following anesthesia, the authors studied 200 cases. The cases were divided into three series. The first series (127) were taken to found a basis for comparison with the treated cases. The second series were treated with half-dram doses of sodium bicarbonate at four-hour intervals—in all half an

ounce—the last dose being given four hours before operation. The third series were treated with one-half ounce of glucose every four hours before operation for six doses, the last dose being given four hours before operation. Glucose is taken much better by the patients than sodium bicarbonate. It must be given pure or freshly mixed, as otherwise it tastes musty. In no case was glucose present in the urine before or after operation.

The following observations were noted and confirmed: (1) the greater liability of children to symptoms; (2) the frequency in which septic cases showed symptoms of acidosis; and (3) the length of anesthesia was not a great factor in the production of acetone.

The authors conclude that so far as prophylaxis by drugs is concerned glucose has a much greater power in controlling the acetonuria than sodium bicarbonate, that the secondary vomiting is in direct relation to the amount of acetone produced and that in cases of vomiting lasting over twelve hours the stomach should be washed out with a solution of sodium bicarbonate, leaving some fluid in that organ.—Post. Graduate.

VOCAL FREMITUS AND VOCAL RESONANCE.

Fetterolf (*Archives Int. Med.*, Feb. 1, 1909) considers unsatisfactory the usual explanations of the fact that vocal fremitus and vocal resonance are more marked at the right apex than at the left. His explanation rests on the fact that sound vibrations are transmitted not only by the column of air, but also by the walls of the larynx, trachea and bronchi. On the right side the trachea lies almost in contact with lung, almost entirely throughout its thoracic course. On the left it is separated from the lung by three cm. or more of blood vessels and other tissues. To this inequality Fetterolf attributes the difference in vocal resonance and vocal fremitus.—J. A. M. A.

INJURY TO PERINEUM DUE TO THE SHOULDER.

The fact that the shoulder may plow down through the perineum is often forgotten, and a severe tear even into the rectum may result. Some physicians guard against this by delivering the upper shoulder first, then the lower slides over the perineum easily. Moore (*Jour. Minn. State Association*, April 1, 1909, p. 151) says: "I have never been so much afraid of tears from the head as from the shoulder, and in delivering the child I have always been very careful to rotate the shoulder so that it would not come

into contact with the lower part of the perineum, and I find very seldom I have a ruptured perineum. Sometimes, where delivery seems to be rather tedious, I find a full bladder interfering very much, sometimes unexpectedly. These two things I find in my practice have helped me out a good deal to prevent tearing of the perineum."

OBSTINATE CUTANEOUS SYPHILIDES.

Some syphilides, such as the small follicular and squamous palmar syphilides, are most refractory to treatment; in these cases, a mercurial ointment rubbed in locally will often hasten absorption. The white precipitate ointment diluted with an equal part of lanoline, the mercurial ointment similarly reduced to half its strength, or the oleate ointment are suitable for this purpose.—C. E. Pollock, in *American Jour. Dermatology*.

HYPEREMIA IN THE TREATMENT OF CHILBLAINS.

Dr. C. Ritter states that not one case of chilblains failed to improve under the application of Bier's method of hyperemia. The only apparatus required for inducing this artificial hyperemia is Bier's constricting bandage by the application of which hyperemia is produced. The same thing can be brought about by the application of hot air to the part, in the absence of the constricting bandage. The application should extend from six to twelve hours, with a pause of at least two hours daily.—*British Medical Journal*, in *Hospital Assistant*, 1908, via *Western Med. Review*.

SHEET-WADDING FOR COTTON JACKETS.

Pons (*Med. Summary*) calls attention to the use of sheet-wadding. There is nothing new in its use, but it may be well to be reminded. "Apropos of cotton jackets, etc., for pneumonia, etc. In place of the cotton-wool I use ordinary sheet wadding, such as is sold in every dry goods store, using double thickness and cutting two slits for arms, pinning over the shoulders and on the side."

LUETIC ULCERS BENEFITED BY BIER'S HYPEREMIA.

Haggard (*So. Pract.*, April 1, 1909, p. 163) shows that passive hyperemia will hasten the healing of luetic ulcers on the extremities. The patient, of course, takes the usual anti-luetic treatment. "The degree of constriction is measured by the appearance of the limb; it should be blue and warm, not white and cold, because

the latter would indicate the tourniquet action of shutting off the artery. We really intend fencing the venous blood in the area, where it is needed for the reparative action of its cellular life and opsonic principle. The patient wears it over night, rests awhile in the forenoon, wears it again for an hour or so and repeats it in the afternoon, with another interval before bed time. It is accomplished with a large rubber tube encircling the limb over a folded towel. The patient soon learns to do this for himself after he is instructed a few times and understands the principle."

ATROPINE TREATMENT OF GASTRIC ULCER.

In severe cases of ulcers of the stomach, D. V. Tabora considers atropine our most reliable drug, and in most cases superior to surgical intervention. The action of atropine is threefold; it reduces the hyperacidity, is antispasmodic, and to a slight degree anesthetic. The cases selected were all of a severe type in which operative interference was ordinarily indicated.

The method of treatment consists in an injection of one Mg. of atropine, morning and evening; in some cases, even this dose was increased to three Mg. pro die. These injections were continued four to eight to ten weeks, the patient remaining in bed during the entire period. During the first few days fluids were given only by rectum or hypodermatically. Milk with one-third cream was then given by mouth in gradually increasing quantities for a period of at least four weeks. Cereals and eggs were then gradually added to the dietary. Meat was not given before two months.

The subjective symptoms, especially the pains, disappeared after the first day of treatment. The hypersecretion disappeared permanently in most cases, or remained much reduced. The motor insufficiency was also markedly improved.—Muench. Med. Woch., 1908, No. 38, via Merchs Archives.

BOOK REVIEWS

PROGRESSIVE MEDICINE, QUARTERLY DIGEST OF ADVANCES, DISCOVERIES AND IMPROVEMENTS IN THE MEDICAL AND SURGICAL SCIENCES. Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis. Volume I. March, 1909. Lea & Febiger, Philadelphia and New York.

In this volume the Surgery of the head, neck, and thorax is particularly well featured by Dr. Frazier. It is a large subject, but the newer developments in current medical literature are well

discussed as briefly as is consistent with thoroughness.

In the department on infectious diseases the discussion of epidemic cerebro-spinal meningitis and the plague are at present of special interest.

Crandall reviews several important subjects under diseases of children, while Kyle and Duel treat of the nose, throat and ear. Making in all a very well rounded and interesting volume.

CONSTIPATION AND INTESTINAL OBSTRUCTION. By Samuel G. Gant, M. D., LL. D., Professor of Diseases of the Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Octavo of 559 pages, with 250 original illustrations. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$6.00 net; half morocco, \$7.50 net.

This work presents a subject in a classical and systematic way that has never before been brought out in the form of a text-book. It is not only a book for proctologists, but unquestionably one for all those interested in medicine and abdominal surgery, as obstinate constipation is the concomitant of so many different diseases and conditions.

The real worth of the book lies in the differential diagnosis between mechanical obstructive obstipation and constipation from colonic atony, dietetic errors and loss of habit. The treatment is diametrically opposite the one purely surgical and other mechanical and hygienic. For the former the text is greatly enhanced by the description of operative procedures, with explicit plates illustrating a superior technic in abdominal surgery necessary to correct these conditions. The treatment of the latter condition by hydrotherapy, massage and electricity is based upon the psychological elements that enter into the individual case which is necessary for the correction of the condition in addition to regulation of habit, diets, etc.

The book is timely as the profession is becoming better versed on the intelligent treatment of constipation and not depending so much on drugs that actually aggravate the condition. The book would be incomplete without a detailed description of all these measures, although they only serve as suggestions to guide the patient until the normal state is reached.

The author is to be congratulated upon the thoroughness and completeness of his work. Heretofore we have lacked a book giving an explicit knowledge of the causes and treatment of constipation.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

"Syphilis of the Face" was the title of a paper read before the Cincinnati Academy of Medicine on May 3, by A. Ravogli. He had often found the face the seat of the initial lesion and very often the seat of secondary and tertiary luetic eruptions. The eyebrows have been infected with syphilis and not infrequently the initial lesion. In the case of one physician it was contracted by the patient coughing syphilitic sputum into the eye. Kisses upon the eyelids are a frequent cause. Initial lesions on the lips are frequent, sometimes from direct contact and sometimes from indirect contact. An interesting case is that of a workman who took nails out of the same bag in which a syphilitic workman took nails and placed them in his mouth. He had eight cases of chancre of the chin within two years from the tweezers of a barber used in pulling so-called wild hairs. The pallor and shallow color of the skin at the beginning of the constitutional period of syphilis is well revealed on the face. The patient cannot conceal this color which shows the affection of the general system.

"Syphilis of the Throat." Though primary syphilis of the tonsil is often due to sexual perversion, but this was not so with the cases which came under his observation. The virus in his cases had been usually conveyed by kissing while mucous patches were present in mouth or on the lips or tongue. The doctor had reported to the American Rhinological Laryngological and Otological Society in 1907, two cases of primary syphilitic affection of the tonsil. The induration of the tonsil, especially the zone surrounding the initial ulcer, is the first suspicious feature which should arrest the attention of the physician. This can be felt by the finger or the use of a firm pledget of cotton on an applicator. The involvement of the cervical lymphatics soon follows; first the involvements of the anterior glands on the side of the lesion and then extending to all the anterior and then the posterior cervical lymphatic glands. Secondary manifestations in the throat are usually easily recognized. It is only where the physician does not expect to find syphilis that mistakes in diagnosis occur. The secondary lesions appear sooner when the primary lesion is on the tonsil. This is accounted for by the free lymphatic circulation allowing the virus to sooner enter the general circulation. The primary and secondary

lesions of the larynx sink into insignificance compared with those of the later or tertiary stage. In the tertiary stage laryngeal perichondritis is a dangerous symptom. The doctor said he had only touched upon the phases which were of the most interest to his hearers and had not tried to cover the whole field even of this limited region. The subject is too varied and too large to give a short review without more time for arranging and condensing material

Abstract of paper on "Syphilis of the Nose," read by Wade Thrasher before the Cincinnati Academy of Medicine, May 3.

The manifestations of syphilis are so infinite and the course it runs so irregular that when the evidence is limited to one lesion, without concomitant symptoms, a positive diagnosis is hard to make.

Microscopically and macroscopically resembles sarcomatous or epitheliomatous hyperplastic tumors, actinomycosis, mycosis fungoides and tuberculosis. Welcome serum tests. Case reports to illustrate difficulty in diagnosis.

Case A—Maiden lady, aged forty-eight, nasal stenosis caused by hyperplastic granulation tissue springing from septum and turbinals. Resembled case of nasal tuberculosis author reported previously. Anemia and cachexia, no other symptoms; two microscopic examinations made by different men and both pronounced it small round cell sarcoma; three or four operations for removal followed by rapid recurrence. Trypsin injections given. Decrease in weight and increase in cachexia. Three months after first seen, noticed slight copper hue erythematous syphilide on forearm, which even she had not noticed. Complete recovery under anti-syphilitic treatment.

Case B—Male, twenty-eight, symptoms of "cold in the head" for last four months, small septal shelf near floor hypertrophy of both left lower turbinals, turbinals reduced and shelf removed. In two weeks when septal wound had healed, septum began to swell bilaterally about half inch above where shelf had been. Through septal abscess from streptococcus infection until a small focus of necrosis appeared on each side at point of greatest bulging indicated a gummatous infiltration. Anti-syphilitic treatment rapidly cleared up nasal condition. The initial lesion is sometimes difficult to recognize.

Case C—Had chancre of nose which resembled in many ways a sarcoma. Rapid development and

vascularly misleading until cervical induration and dermal rash appeared. Proper treatment resulted in cure. Gumma of septum accompanied by coryzeal symptoms, secretions thin while malignant or tubercular secretions muco-purulent.

Case D—Gummatous ulceration of turbinals of left side nose and including portion of upper lip. Appearance of epithelioma. K. I. and mercury resulted in rapid disappearance.

Case E—Nasal conditions general hyperplasia and infiltration of membrane. Doughy, soggy and pale in color, secretion abundant and muco-purulent. This condition is the one which precedes gummatous ulceration as found in Case D. Nasal symptoms cleared up under K. I. and mercury.

Differential diagnosis between different diseases affecting nose considered. Paper included a case of syphilophobia.

The Adams County Medical Society met in regular session Wednesday, April 28, at West Union. The program was as follows: Morning Session: Miscellaneous business; "Treatment of Pulmonary Tuberculosis," R. Y. Littleton, Rome; 12 m., dinner at Commercial Hotel. Afternoon Session: "The Relation Between Dentistry and Medicine," Geo. E. Bratten, Manchester; Some Interesting Cases, G. F. Thomas, Peebles; Clinical Reports.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

The regular meeting of the Montgomery County Medical Society was held Friday evening, April 2. The program was as follows: Symposium on Pneumonia: I, Pneumonia in Children, C. L. Patterson; II, Pneumonia in the Aged, F. W. Roush; III, Lobar Pneumonia, J. L. Carter.

The regular meeting of the Montgomery County Medical Society was held Friday evening, April 16. The program was as follows: "The Diagnosis of Insanity from the Standpoint of the General Practitioner," F. W. Langdon, Cincinnati.

The regular meeting of the Montgomery County Medical Society was held at the Y. M. C. A. auditorium, April 30. The program was as follows: "Race Suicide," J. H. J. Upham, Columbus.

A meeting of the Green County Medical Society was held April 29. The program was as follows: Grace, Rev. H. J. Simpson, rector Christ Episcopal Church. Toasts: S. S. Wilson, Toast-

master. "Optimism in Our Profession," D. R. Silver, President Ohio State Medical Association, Sidney; "Pessimism," C. L. Patterson, Dayton; "Our Neighbors," W. B. Patten, Springfield; "Quacks, Past, Present and Future," J. H. J. Upham, Secretary Ohio State Medical Association, Columbus; "Cults and Occults," Dan Milliken, Hamilton.

THIRD DISTRICT

H. B. GIBBON, M. D., Collaborator.

The Van Wert County Medical Society met Wednesday, April 7. The following program was rendered: "Dietary and Disease," A. P. Buchman, Ft. Wayne, Ind.; "Some Phases of Prostatectomy," B. Van Sweringen, Fort Wayne, Ind.; "Injuries of the Elbow Joint," F. D. Blain, Kenton; discussion of hospital proposition.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Academy of Medicine of Toledo and Lucas County met in general session April 2. W. J. Stone read a paper entitled "A Contribution to the Study of Bacterial Immunization and Vaccine Therapy." Dr. Stone reviewed the subject of opsonins and said that vaccine therapy depends on the fact that by injection of killed bacteria, the protective forces against the living bacteria are increased—that is, a condition of active immunity is produced. The various methods of killing the micro-organisms were described, including the recent use of chemical agents instead of heat as originally used.

The negative and positive phases were discussed. The first is the decrease of anti-bacterial power of the blood and its accentuation depends on the amount of bacterial poison present in the body. The positive phase is the reverse or increase of bacterial power of the serum. It is during the positive phase that the improvement of the patient occurs.

The opsonic and clinical methods of control were compared. Dr. Stone uses both methods. One hundred and ten cases of various infections were reported treated with vaccines and the results given.

The discussion was opened by Dr. Willard H. Hutchins of Detroit, and continued by Drs. Betts, Levison, Stone and others.

The Pathologic Section of the Academy of Medicine of Toledo and Lucas County met April 9.

C. S. Ordway reported a case of "Sarcoma of the Kidney," which he had removed at operation and demonstrated the specimen.

John G. Keller reported and demonstrated specimens of "Papilloma of the Urinary Bladder, Tuberculous Epididymitis, Prostatic Calculi and Hypertrophied Prostate."

C. H. Dahlenburg read a paper on the "Etiology and Pathology of Syphilis." The history of syphilis was traced backward, and Dr. Dahlenburg took the view that syphilis was brought to Europe from America at the time of Columbus.

The numerous organisms which at one time or another have been called the specific cause of syphilis were described. The spirochaete pallida was discovered by Schandiven and Hoffman in 1905, and this is now accepted as the specific cause of the disease. The organism has been and can be isolated from chancres, buboes, mucous patches, various syphilides, lymph glands, blood, cerebro-spinal fluid and numerous other tissues and fluids from syphilitic cases.

The organism is long, delicate, spirally curved and non-refractile. Its average length is 4 to 14 microns. The organism is actively motile, and it can be stained with various stains. The Geinsa stain is widely used. It can also be seen unstained with the dark ground condenser.

The pathology of syphilis is very extensive. No tissue of the body escapes. There are, however, certain characteristic pathologic changes, especially the cellular infiltration, and the changes in the blood vessels. The cutaneous syphilides have a multitudinous variety. These were described in detail. The gumma is an infectious granuloma and presents histologic similarity to the tubercle. They both tend to caseation. The distinction between gumma and tubercle may be difficult. Epithelial cells are more frequent in tubercle. The tubercle is often free from vessels, but new vessels are prominent in gumma; giant cells are more characteristic of tubercle.

Enlargement of lymph glands is one of the characteristic features of secondary syphilis. The glands are not large, are indolent, painless, hard, discrete, and do not suppurate.

The blood vessels are especially attacked. The changes in the blood vessels may be in several forms. There may be a periarteritis or an endarteritis. The latter is most often seen in the smaller arteries. The endarteritis tends to a gradual narrowing and final obliteration of the lumen. The large vessels also show a syphilitic arteritis. The aorta is especially affected. Aneurisms seem to be practically always associated with syphilis.

The Surgical Section of the Academy of Medicine of Toledo and Lucas county met April 23. Herman Bamberger reported a case of "Inversion

of the Uterus" in his private practice. The inversion followed the expression of the placenta and was complete. Dr. Bamberger reduced the inversion. The rarity of the condition was considered. Drs. Wright, Lawless, Thorn and others discussed the case. C. D. Selby read a paper on Pott's Disease: He said:

In order that Pott's disease be treated satisfactorily, it must be treated as (1) a tubercular infection, and, at the same time, as a (2) break in the continuity of the spinal column. The indications, therefore, are to overcome the tubercular disease on the one hand, and prevent or overcome deformity on the other. The treatment of pulmonary tuberculosis has been given so much attention of late that detailed consideration of the tubercular aspect of Pott's disease is not necessary, though it must, under no circumstances, be slighted. The spinal localization is best cared for by measures, or apparatus, that compel a position of hyperextension. This is most easily obtained by recumbency, preferably on a Bradford frame, the plaster bed of Lorenz, or similar means. When recumbency is not feasible, the hyperextension is to be sought through plaster casts or braces. Whichever is used must exert a forward pressure on the deformity and a backward pull at the shoulders and pelvis, which means that the appliance or cast must extend to, and include the shoulders above and the hips below, or else its purpose fails absolutely. If the cervical region is involved, or the upper dorsal, the head and neck must also be fixed. After all, it matters little just what apparatus, or brace, or style of cast is used so long as it accomplishes the forward pressure on the deformity and the backward pull on the extremes of the spine; this is the essential indication to be met with respect to the spinal lesion. So far as concerns the character of the infection it must be treated as tuberculosis of any other part of the body.

Dale Wilson read a paper on "Club Foot." He said in part:

The term club-foot should apply only to the most common of congenital deformities—talipes equinovarus—in which the distortion is club-like in form, and from which the name is derived. It may be considered as a foot, which during the process of formation has slowly grown into the combined deformity of plantar flexion, adduction and supination.

The etiology of club-foot is still obscure. Many theories explaining its cause have been advanced, and the most convincing and acceptable one is that of arrested rotation by mechanical restraint or pressure in utero.

The pathology of club-foot corresponds to what one would expect from an inspection of the deformity. The internal structures are rearranged to conform to its external contour. The greatest bone changes take place in the os calcis, astragalus, scaphoid, and cuboid. The plantar fascia, deltoid ligament, tibialis anticus, and posticus muscles, and tendo achillis offer the greatest resistance to correction. The pathological changes are usually slight and easily corrected soon after birth. But increasing age, rapid growth, weight-bearing, and functional use

in the distorted attitude, very rapidly increase and fix the deformity, and as a result, rectification is much more difficult.

The symptoms of club-foot are the deformity and resulting disability. The disability appears at the walking age and depends upon the degree of distortion. Inflamed callouses, corns, and bunions over weight-bearing surfaces or bony prominences, may cause pain or discomfort, thereby adding to the disability.

The diagnosis is made from the examination and the history of the case.

The prognosis, in regard to improving the distortion and lessening the disability is always good. No case can be presented that is not capable of marked improvement.

The treatment of club-foot is divided into three stages:

1. Correction of deformity.
2. Retention of the foot in the corrected attitude until a re-arrangement of its internal structure can take place.
3. After treatment or supervision.

Many mechanical and operative methods have been devised for correcting club-foot, and just which one shall be used depends upon the age of the patient, degree of distortion, and experience of the operator with some particular method. Infantile club-foot may be considered a twisted foot, so treatment should be directed to untwisting the distortion. Every infantile club-foot should receive preliminary manipulations towards correction for two or three weeks after birth.

Mechanical treatment can then be undertaken, and is best accomplished by gradual correction of the deformity with the plaster bandage. Correction is here used in the sense of over-correction. The most important part of the distortion is varus, and it should be gradually over-corrected by weekly applications of the plaster bandage until the outer border of the foot can be easily placed against the fibula. The equinus is then similarly treated until the dorsum of the foot can be placed against the tibial crest. Should the tendo achillis prove too resistant, its subcutaneous division is advised.

Correction of the deformity should be followed by wearing some retention apparatus, supplemented by daily massage and manipulations towards over-correction. When walking begins, the apparatus may be discarded, as weight-bearing tends to force the foot towards over-correction. A case should be kept under supervision for at least a year after walking begins to guard against relapse. This treatment is applicable up to the walking age, but if begun early a perfect cure, both as to shape and function, is obtainable.

In neglected club-foot of early childhood, forcible manual correction under anesthesia, accompanied by subcutaneous division of the tendo achillis, is the desirable method. In older children, where more than manual force is required, forcible correction can be accomplished by means of the Thomas wrench.

The surgical procedure of choice should be the Phelps operation, combined with sufficient force to thoroughly over-correct the distortion. This method should be employed in the more resistant cases of late childhood, and in adolescent and adult life.

Astragalectomy, combined with forcible correction, should be the method employed when all other means have failed to procure a complete rectification of the distortion.

These papers were discussed by J. H. Huntley, of Lima, and A. M. Steinfeld, of Columbus, and others.

The general meeting of the Academy of Medicine of Toledo and Lucas County met May 7. Burt Abell, D. D. S., read a paper entitled, "The Relation of the Nasal and Oral Cavities."

In presenting this subject tonight there are so many things I want to say and the time allowed for a paper of this kind necessitates such a brief treatment of any one of them, that I fear I may fail to interest you at all.

The Orthodontist who deals with orthopedics of the dental organs and lower face has been compelled to look to other regions for the causes of deformities in his field, and has found a very intimate relation existing between the nasal and oral cavities. I hope to show that the rhinologist, at least, may find the cause of some of his difficulties in a consideration of the oral cavity, and the solution of at least a few of them when normal conditions have been restored there.

In 1873, Dr. Mayers, of Copenhagen, pointed out the significance of nasal obstruction, calling particular attention to the enlarged lymphoid tissue in the naso-pharynx, the so-called adenoids. Others since have discovered other causes of nasal stenosis, such as deviated septum, spurs, hypertrophied turbinates, etc., and cited the consequent oral respiration and its pernicious results, such as contracted chest, disturbed vision, deformed jaws, malposed teeth, etc.

While the etiology of the deformities of the face, palate and teeth still admits of much debate, much being due to intra-uterine influences or the unskilled accoucheur, yet without doubt the major portion of deformities are acquired in early childhood. In the study of the development of the nasal cavity, maxillae and mandible, we find the following to be true: In the infant the face is to the cranium as one to eight; at two years, as one to three; and in the adult as one to two. In early life the face seems to exist essentially for the teeth, at three, the roots of uppers touching the floor of the orbit; at eight, they have become separated by the large maxillary sinus. With this descent of the teeth and their alveolus is a corresponding descent of the hard palate. We think this can be demonstrated by its relative position to the mouths of the Eustachian tubes. In the embryo the hard palate is above the mouths of the Eustachian tubes; at three years it is on a level with them, and at eight years it is below them. The change in the form of the choanae would also go to prove this descent of the hard palate." At birth the height of their cavities being about 6 m. m., and their breadth a little more; at the first year it has doubled, at the second year its height has increased more rapidly and has changed from a circular to an oblong channel; at the seventh year its perpendicular axis is twice the length of the horizontal, assuming the adult form." At three years the ethmoidal portion of the nasal

space is to the maxillary as two to one; at eight, if there has been the proper downward growth of the maxillae and hard palate, the ethmoidal portion is to the maxillary portion as one to one, thus increasing the nasal space and ease of nasal respiration.

No doubt one most pernicious factor in the lack of development of the maxillae is the use of the soft rubber nipple with its large opening, requiring but little effort and that of short duration, to get the milk from the bottle. The opening should be as small as possible, compelling strong effort on the part of the child.

With the parts in normal positions there is a proper direction of air current through the nasal cavity and naso-pharynx, with its stimulating influence on these parts conducting to normal blood supply and growth. In oral respiration, the air current, instead of stimulating the tissue under which it passes, dries the membrane of the mouth and causes such discomfort that there is a more or less constant effort to moisten it with the tongue.

Without in any way attempting to classify mal-occlusion I will say that I have found that in the presence of adenoids the teeth assume one of three positions: One is the so-called open bite in which there is a lack of vertical development of the maxillae, while the mandible has been pretty well developed. In the case before you which is fairly typical, the constant effort to moisten the mucous membrane of the palatine portion of the mouth pressed the tip of the tongue between the teeth till its imprint is easily traceable in their alignment when the jaws are closed. The force of the tongue in this case was so great that not only were the incisors held apart but it was pressed out between the upper and lower bicuspid teeth till when the jaws were in their greatest approximation nothing but the second molars occluded, and the imprint of the bicuspid teeth was left in the tongue.

Not only is the development of the maxillae retarded by the mechanical interference of the tongue, but the teeth are deprived of that most important factor, the force of normal occlusion. In popular parlance the maxillae are the anvil against which is swung hundreds of times, during the waking hours, the mandibular hammer stimulating normal growth not alone in themselves, but in the whole face and skull as well.

Just a word as to normal occlusion: Dr. E. H. Angle, who was the fortunate discoverer of its importance, defines it as the normal relations of the occlusal inclined planes when the jaws are closed. I shall have more to say later concerning these inclined planes.

Another deformity attending nasal stenosis is that popularly termed protruding upper jaw. This is by far the most prevalent. In reality the protrusion, if any, is confined to the crowns of the incisor teeth, and is not a protrusion of the maxillae at all. There is, however, a positive retrusion of the mandible and lower teeth, and as all things have value by comparison, the mistake is made in supposing the deformity to be in the maxillae. In the open bite cases there is a lack of vertical development of the maxillae, while in these latter, there is a lack of lateral development especially through the bicuspid region. We believe the distal position of the mandible is caused

by its being held in a lax, open position in the effort to breathe till the cusps of the teeth become locked in abnormal positions. This may occur in the temporary set, but the crucial time is usually at the time of eruption of the first permanent molars, at about six and a half years. These large, strongly cusped teeth once locking with the mandible in an abnormal relation to the maxillae, hold it there until held mechanically by the orthodontist. This interdigitating of the cusps of the teeth is a far more important matter than would appear from a cursory consideration. The occluding portion of the cuspids, bicuspid teeth and molars is entirely made up of inclined planes, which in the proper closure of the jaws and normal positions of the teeth, are a most perfect mechanism, interlocking like the cogs in the gearing of a machine. When we remember that the jaws come together in mastication with a pressure, according to Black, of from 50 to 200 pounds, we begin to realize how great an influence these inclined planes exert on each other. If the jaws close abnormally these inclined planes are just as powerful in perpetuating abnormal conditions. The arch of teeth on each jaw gradually widens as it extends distally, and if the jaws are closed in normal relations this is uniform in both jaws. If the lower jaw closes distally to the upper, any particular point on the lower will be occluding with a point on the upper, wider than itself. As the lower is the first to develop and is the stronger and heavier bone, it, grasping with these strong cusps, the cusps of the upper teeth, will effectually prevent the proper lateral development of the upper arch. You can readily see that if the sides of an arch are compressed, the apex will be pressed out, hence the crowns of the upper incisors are often protruded in these cases. This lateral narrowing of the maxillae has its effect on the nasal lumen, decreasing it very considerably. To prove that the movement of the crowns of the upper teeth has an influence on the walls of the nasal tract, I want to cite you two clinical illustrations: Dr. G. V. I. Brown, of Milwaukee, has performed some very conclusive experiments on the cadaver, proving that the nares can be widened by simply spreading the upper arch of teeth, the appliance grasping only their crowns, the movement extending even to the malar bones. Dr. Quimby tells of the case of his own daughter where the widening of the upper arch of teeth straightened a deviated septum and changed the respiration from oral to nasal, without in any way operating on the nasal tract.

In a great many of these cases the upper lip has been held up in the effort to breathe, and becomes too short to perform the function of closing the mouth, and this has to be accomplished by the lower lip being brought up against the tips of the upper incisor teeth, which soon drives them still farther mesially. This pernicious practice, if persisted in, as it must be owing to the position of the parts, gives an outward roll to the lower lip, thickening it and spoiling what should be one of the most beautiful features of the face.

In the treatment of this type of mal-occlusion co-existing with adenoids, the patient is first of all sent to the rhinologist for a thorough freeing of the nasal tract. Then the upper arch of teeth

is widened laterally and the incisors retruded to their normal positions. Simultaneously the lower jaw is made to close forward to a normal position, and when this is accomplished the teeth are retained in their new positions till they become firm once more. It is but reasonable to infer that if the adenoids are removed and the teeth are not put into normal relations the position of the parts will necessitate oral respiration and a tendency to recurrence. In young patients an effort is made to restore normal lip function by the use of plasters at night. This is done only when we are sure there is ample provision for nasal respiration else there might be injury to the ears. Richards, of New York, very strongly advises the removal of two-thirds of the inferior turbinates, saying that there is then very much less likelihood of recurrence of the adenoids. He even goes farther and says that the adenoids will frequently disappear if all spurs and two-thirds of the inferior turbinates be removed. However this is a matter I am not able to discuss.

There is still a less frequent type of mal-occlusion co-existing with adenoids in which the maxillae has its full vertical development, but is undeveloped mesio-distally. This does not result in the open bite as in the first type mentioned, but there is a retrusion of the upper incisors and frequently a distal position of all the upper teeth with an apparent protrusion of the lower jaw and teeth. The treatment in these cases consists, as in the others, of the removal of the adenoids and a stimulation of the maxillae by gentle, but constant pressure on the teeth till normal growth has taken place.

As perhaps you have seen from the cases shown, the work of the orthodontist is not alone the proper arranging of the teeth, but is also a matter of cosmetics as well. Faces differ as to type, but we believe that if all the teeth of any given case are arranged in normal occlusion, the resulting contour of the lips and chin will be the proper one for that particular type of face. Any deviation from the normal occlusion or arrangement of the teeth is mal-occlusion and causes a shortening of the line of occlusion, or line on which the two rows of teeth meet, and a corresponding lessening contour of the features. Hence you can see, with our ideals, why we preach against tooth extraction. We are in trouble when a case presents with teeth missing as they have to be supplied by artificial substitutes, else we are not able to contour the features properly. This substitution of artificial teeth, either by fixed bridges or removable plates, is of such a serious nature, jeopardizing as it does so many of the remaining teeth, that we often have to choose the lesser of two evils and are unable to reach ideal results.

I would not have you think that all mal-occlusions are due to adenoids or even co-exist with them as over 60 per cent are in no way traceable to them. However, if even 40 per cent are in any way related to nasal lesions with which you have to deal, it seemed appropriate I should bring this matter before you. There is a belief current among dentists that as a rule physicians give the dental organs very little consideration in either diagnosis or treatment. I trust I have been able to show you that at least the positions of the teeth

and their relation to contiguous areas are worthy your consideration.

This paper was discussed by Drs. J. J. La Salle, Hubbard, L. L. Barber, D. D. S., and O. W. White, D. D. S., of Detroit.

The Paulding County Medical Society met April 15. L. R. Fast gave the President's address, "An Epitome of Medicine." A. H. Mouser read a paper entitled "Endocarditis as a Complication." E. D. Murphy read a paper on "Septicemia." The papers were widely discussed.

Williams County Medical Society met May 13. The program was as follows: "Conservatism in Accident Surgery" (with presentation of case), J. I. Newcomb. Discussion: James W. Long, D. C. McTaggart, D. G. Mortland. "Report of a Case of Tubercular Meningitis," O. H. Nihart. Discussion: W. K. Nihart, J. P. Pemberthy, H. H. Patton. "Hysterectomy for Carcinoma with the Electric Cautery," W. J. Gillette, Toledo, Ohio. Social hour and supper.

The Eye, Ear, Nose and Throat Section of the Academy of Medicine of Toledo and Lucas County met April 30. Charles Van Pelt read a paper on "Asthma." He said that the cause of this dyspnoea is a peculiar spasm of the muscles of the bronchial tubes. It may come at any age. Dr. Van Pelt has seen it in an infant of three months. It occurs twice as often in the male as in the female.

The pathology of the disorder is determined by the sputum and from the lungs of those who have died during the attack. Cases of the latter which have been studied histologically are rare in the literature. These studies have shown that the pathology is different in different cases. The different elements in the pathology—the mucous, bronchial epithelium, leukocytes, eosinophile cells, Charlot-Leyden crystals, and Curschmann's spirals were all considered in detail.

Many causes will precipitate an attack. Disease of the nose, digestive disturbances, uterine disorder, certain odors and dusts, and circulatory troubles. The attack usually comes at night and compels the patient to take some certain position in which he can best use the accessory muscles of respiration. Examination now will show a decrease in vesicular breathing, the chest dimensions increased and the diaphragm lowered. The attack lasts from a few minutes to several hours. Recurrences may be frequent. Following the attack, there is usually headache, and eventually a chronic bronchitis and emphysema will occur.

The treatment is usually directed toward re-

lieving the difficult breathing. Prophylaxis is, of course, important. The anti-spasmodic drugs have been most used, such as chloroform, morphia, lobelia, and tobacco. Also, grindelia robusta, niter and stramonium have been used with benefit. During the attack, amyl nitrate, nitroglycerin and adrenalin have been used with benefit. The serum treatment of Dunbar has been used successfully in some cases.

The climatic cure is considered the best. Great variability is shown here. No one climate will relieve all cases. Even the same climate may eventually cease to benefit a particular case.

William G. Dice read a paper on "Asthma in Children." The disease occurs in children equally well as in adults.

Dr. Dice has seen a number of cases in children due to various causes. The attacks may come on with febrile disturbances. The asthma may often be masked in children by the catarrhal manifestations. The predisposing cause in children can be more frequently found than in adults. The younger the individual, the greater is his chance of perfect recovery. The diagnosis in children may present a little difficulty.

A. L. Steinfeld also read a paper on "The Factors Causing Asthma."

These papers were discussed by Drs. Liken, Hubbard, North, Grosh, and others.

FIFTH DISTRICT

FRED W. HITCHINGS, M. D., Collaborator.

The sixtieth regular monthly meeting of the Lake County Medical Society was held at the Cowles House, Painesville, Ohio, Monday evening, May 3, 1909. Program was as follows: "Minutes of Last Meeting." "Miscellaneous Business." "Presentation of Cases." Paper by I. J. Kerr of Cleveland, on "Deformities of the Nasal Septum, Their Causes, Results and Treatment." Discussion.

EXOPHTHALMIC GOITRE FROM THE STANDPOINT OF THE CLINICAL SURGEON.

Read before the Academy of Medicine of Cleveland, Ohio, April 16, 1909, by A. J. Ochsner.

The paper brings out only such points as should be uppermost in the mind of the practical in conducting the treatment of patients suffering from exophthalmic goitre.

It discusses the diagnosis and symptomatology and gives a concise description of the consecutive steps of the operative treatment laying especial stress upon the precautions which are necessary in order to make the operation relatively very safe.

The mortality due to operation is very slight in all cases in which not too much time has been spent in useless medical treatment.

Many cases will recover under medical treat-

ment, but those that do not must be operated upon early before especially the heart and nervous system have been hopelessly ruined. This is true especially of cases which improve temporarily under internal treatment only to get worse than ever in a short time.

The following conclusions are submitted:

1. The diagnosis of cases of exophthalmic goitre suitable for surgical treatment is relatively easy and should be made early.

2. All cases of exophthalmic goitre which are not relieved permanently by rest, hygienic and dietetic and medicinal treatment should be treated surgically before there has been irreparable harm done to important structures.

3. This is especially to be borne in mind in connection with a class of cases that respond readily to non-surgical treatment only to relapse at once upon the slightest strain.

4. The dangers in the operation depend largely upon the harm done by the disease before the operation.

5. These dangers can be eliminated by early operation and by preliminary treatment with rest, hygiene and diet.

6. The operative danger lies in the anaesthetic, sepsis, acute hyperthyroidism, tetany, cachexia strumipriva and injury to the recurrent laryngeal nerves, hemorrhage and shock.

7. All of these dangers can be eliminated easily with reasonable skill and attention to details.

8. The patient should receive careful attention after treatment with rest, hygiene and diet following the operation until especially the blood and the nervous system and the heart have thoroughly recovered from the effects of the disease.

9. All psychic excitation should be prevented before and for a long time after the operation.

The Huron County Medical Society met April 8, 1909. The program was as follows: "Acute Arthritis," M. W. Bland; "Cystitis and Prostatitis," H. R. Dewey; "Silver Salts," D. W. Rumbaugh.

The regular meeting of the Huron County Medical Society was held May 13. The program was as follows: "The Money End of Health," A. J. McNamara; "Infant Feeding," D. W. Loney; "Antipyretics," M. L. Hindley.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Harrison County Medical Society met at Cadiz April 20. The program was as follows: "Treatment of Uterine Prolapse," J. W. Gordon, Bowerston; "When to Use Heart Stimulant," J. S. Campbell; "Treatment of Lower Ext. Fractures," O. A. Hess, Harrisville; "Diagnosis of Chorea and Hysteria," W. A. Anderson, Scio.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

Regular meeting of the Columbus Academy of Medicine, May 3. The program was as follows: "Some Facts in Nutrition," A. M. Bleile. Discussion by Drs. Pfeifer and Rector.

J. F. Baldwin presented the following specimens, with brief histories:

(1) A large multi-nodular fibroid, many of the fibroids being pedunculated, in which the patient, who was quite a fleshy woman, had presented no symptoms whatever of any abdominal trouble until about a month before the tumor had been removed, when she commenced having hemorrhages, these coming on about four years after the menopause.

(2) An annular cancer of the sigmoid removed at autopsy from a patient sixty years of age, who had suffered from absolute constipation for six weeks before her death, during all of which time, however, she had been practically entirely comfortable, except when active cathartics had been given in an attempt to secure a movement. There had been some tympany, but pulse and temperature had been good until a few hours before her death. The stricture was found to be watertight.

(3) A number of paraffin nodules, one of them the size of the thumb, which he had removed from a patient with double inguinal hernia, in whom some quacks had attempted to effect a cure "without the knife." Fortunately there had been no infection, so that the radical cure was readily accomplished.

(4) An unruptured hydrocele of the cord. This had developed in the inguinal canal, which was therefore much dilated, and showed a complete diaphragm where the hydrocele had been separated from the testicle. The diagnosis of the condition had been readily made, and at the operation the unruptured sac was removed. As the canal was weakened the usual operation was made as for a hernia.

(5) A melanotic sarcoma which had been removed from the chin of a young man in September. It had existed as a wart for many years, but a few weeks before its removal had shown signs of irritation and had been treated by a physician with caustics. It increased rapidly in size, and when removed was black, and clearly a sarcoma. It was thoroughly removed, but the patient had come into the office a few days before, showing evidence of many recurrences of the growth in different parts of the body. The prognosis at the time of its removal had been given as practically hopeless.

(6) Cancer of the omentum and uterine appendages, the disease having come on in a woman apparently in perfect health, the only symptom being a rapidly developing ascites. The pre-operative diagnosis had been malignancy or tuberculosis, the family history favoring the latter, but the age and history the former.

(7) An enormous spleen, weighing something over eight pounds, which had been removed a few weeks before from a young man affected with splenic anemia. The case had been carefully studied before operation, so as to be as sure as possible of the diagnosis. Owing to adhesions between the spleen and colon a piece of the bowel had to be resected, an anastomosis being made with a Murphy button. Convalescence had been absolutely uneventful, and the patient had left the hospital a few days before in excellent condition. The case will be reported in full.

Meeting May 17: Program: "Observations in the Treatment of Compound Fractures," W. J. Means. Discussion by Drs. Dodd, E. A. Hamilton and Lawrence.

"History of the Certified Milk Movement and Report of the Local Commission," G. C. Schaeffer. Discussion by Drs. Moore, Scott and Professor Erf of the Ohio State University.

Dr. Schaeffer, as secretary of the local commission, presented an outline of the work done by the organization since its appointment by the Academy in June, 1908. Certified milk has been on the market for one month, during which time over 100,000 pints bearing the seal of certification of the commission have been sold. Dr. Schaeffer spoke of the need of arrangement and place where certified milk could be placed within reach of the very poor. He urged an endowment fund for this purpose.

L. T. Le Wald of the U. S. Barracks presented a male patient, with skiagrams showing a complete transposition of the viscera. Dr. Le Wald said that this was the first case of the kind to be discovered in the examination of over 36,000 recruits. He reviewed the literature, and said that over 200 cases of transposition of the viscera had been recorded.

TUBERCULIN IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS.

Abstract of paper read before the Columbus Academy of Medicine, March 15, 1909, by C. W. McGavran.

The importance of an early diagnosis in tuberculosis is now universally recognized and any method giving early information of an existing active lesion should be most carefully studied.

Since the discovery of Koch of toxic products contained in pure cultures of tubercle bacilli, rendered inactive by heating, which when introduced into tuberculous patients in large amounts caused decided local inflammatory and general toxic symptoms, and which when used in small amounts had a tendency to heal, there has been much discussion on tuberculin.

Prominent investigators have used it, become enthusiastic, only to meet with some, what they considered, disastrous effect, discarded it, and branded it as an agent possessing, perhaps, some virtue but entirely too dangerous for diagnostic or therapeutic use. Admitting the possible ill effects that it may have on a few anaphilactic (hypersensitized) individuals, should we not also consider the good that may be derived from its use. As Evans has said, "A surgeon contemplating an appendectomy weighs the danger of the anesthetic and of the operation. He weighs the advantage. He acts on the balance of favor one way or the other. Would his conscience allow him always to refuse operative procedure because there has been a rare death from anesthesia?"

The Origin of Tuberculin—Koch in experimenting on animals injected a healthy guinea pig with a pure culture of tubercle bacilli and in twenty-four hours found the wound at the point of injection had apparently healed. By daily observation he discovered that in from ten to fourteen days there appeared a hard nodule which ulcerated and gradually increased in size till the death of the animal.

He found, however, that after injecting a pig, which had been previously infected (four to six weeks) with a pure culture of tubercle bacilli that while the wound healed in twenty-four hours as in the healthy animal, there would appear in from twenty-four to forty-eight hours an area of infiltration, not limited to the point of injection, but extending in some instances to 1 cm. in diameter. This area of infiltration was accompanied by enlargement of adjacent lymph glands, was dark in color, underwent softening till ulcer formation which healed rapidly.

This experiment showed that a given amount of a pure culture of tubercle bacilli which had been fatal to the healthy pig was not so to the pig that had been previously infected with tuberculosis. In other words the pig after the first infection had reached such a degree of immunization that the second injection was not fatal.

Koch found further by injecting a water ground pure culture of tubercle bacilli into a healthy pig that even after the injection of a large amount only pus appeared. That on the other hand after injecting a similar amount in a tubercular pig the animal was killed.

This showed that von Pirquet has since termed *allergie anaphylaxis* or hypersensitiveness plus immunity. He then discovered that by diminishing the dose to a very small amount the tubercular animal was cured. This led Koch to the finding of tuberculin and to later experiments which show that it, when used in properly graded dosage has not only a curative action but is a diagnostic agent of undisputed value.

Forms of Tuberculin—Besides the original preparation known as old tuberculin (O. T. Koch), which is a filtrate containing the soluble products of a pure bullion culture of tubercle bacilli grown in five per cent glycerin, which is later evaporated in one-tenth its volume, leaving the soluble secretion products in 0 per cent glycerin. There are many other forms of tuberculin now being used. Among these might be mentioned new tuberculin (T. R. Koch), which consists of a 20 per cent glycerin solution of pure culture of tubercle bacilli, which has been dried in a vacuum and pulverized. There is no heat used in the preparation of new tuberculin and it is claimed for it that it produces immunity against the germ as well as against the toxine.

Spenglers Pearlucht Tuberculin (O. T.)—Carl Spengler has prepared a tuberculin made from a culture of pearl disease bacilli which is a bovine disease, and claims for it all the advantages offered by old tuberculin and in addition says that fever and mixed infection are not a contra-indication for its use. Denny's tuberculin (B. F.) is a boullion filtrate prepared without heat. It differs in no other way from old tuberculin.

As a diagnostic agent tuberculin may be used

by the ocular, cutaneous, percutaneous or subcutaneous methods, each having its limitations and each affording some particular advantage in selected cases.

The Ocular Method—Wolff and Eisner and at about the same time Calmette have shown that following the instillation of a weak solution of old tuberculin into the eye of a tuberculous patient, there is in twenty-four hours a conjunctivitis of variable degree of intensity. The degree of dilution may be from one per cent to four per cent and one drop of this solution should be instilled into the inner canthus of one eye. Care should be taken to avoid trauma and particularly to avoid infection. When making the ophthalmic reaction it is a good rule to always make the first instillation in the same eye, either the right or the left in every case, then in the event you wish to take a second test, using a stronger solution, you will be sure not to use the same eye twice which might cause severe inflammatory disturbance even to the loss of an eye.

Julius Citron has adopted the use of small hermetically sealed glass tubes in which there is 1 cc O. T. to which he adds enough distilled water to make 5 cc for a 2 per cent solution, or 10 cc for a 1 per cent solution. The advantage in this method is that in making a fresh solution for each reaction you are not contaminating a stock solution. Citron has divided the extent of the reaction in positive cases in three degrees: First, redness on palpebral conjunctiva; second, redness and moderate swelling on palpebral conjunctiva with small amount of serofibrinous discharge; third, redness and extensive swelling of entire conjunctiva with supuration.

The contra-indications for making the conjunctival reaction are: First, any diseased condition of the eye; second, it should not be made in less than six weeks after tuberculin had been used subcutaneously either as a diagnostic agent or a therapeutic remedy.

The cutaneous method as first described by Von Pirquet, formerly of Vienna, now of Baltimore, consists of making two vaccinations on the forearm four inches apart, to each of which he adds one drop of pure tuberculin. He makes a third midway between these to which he adds one drop of distilled water, which acts as a control.

In a negative case at the end of twenty-four hours none of the three points of vaccination will show signs of inflammation. In a positive case the two points inoculated with tuberculin will show evidence of inflammation; there will be an area of hyperemia, spotted here and there with small papules, while the control point will react as in the normal case. This method is applicable only to children, fourteen years or under, for all above that age give a positive reaction.

von Pirquet says that since pathological examination shows that there is a tuberculous lesion in 9 per cent of all autopsies, there is no doubt that the remaining five per cent also have tuberculous foci which are not recognized and that all adults are tubercular.

Percutaneous Tuberculin Test—Moro and Doganoff have used an inunction of 50 per cent tuberculin in lanolin. The amount used is that equal to the size of a pea, should be rubbed thoroughly into the skin covering an area 5 cc in

diameter. The site of preference is on chest close to mammae or on abdomen. A marked hyperemia in twenty-four hours is considered positive, although a strong reaction will show, in addition to the hyperemia, numerous papules with considerable exudate. While not so reliable as the subcutaneous method it has no contra-indications and is of particular value in children. The subcutaneous tuberculin test is in more general use than any other of the tuberculin reactions. Julius Citron says: "If you inject 1 cc of old tuberculin into a healthy man he becomes sick; if you inject 1 cc into a tuberculous patient he dies. If you inject 1 mg into a healthy man there is no reaction, while on the other hand 1 mg injected into a tuberculous individual will cause a decided reaction."

It is best to begin with 2-10 mg, then 1 mg, the 5 mg. In strong individuals where there has been no reaction a fourth injection of 10 mg may be given, but the operator must have anaphylaxis in mind.

The reaction may be both local and general. First, local at point of injection (this is not uniformly present); second, local at tuberculous foci, manifest by an increase in all physical signs, of cough, expectoration and chest pain; third a general toxæmia showing marked elevation in temperature, palpitation, headache, loss of appetite and general weakness. These or any group of these may be present and should be considered as positive in a given case.

The reaction is best carried out with patient in hospital where two-hour pulse and temperature curve may be kept. In ambulatory patients the injection is best given at about 1 p. m., and the patient should be given a thermometer with instructions to take temperature every two hours till 11 p. m., then again in the morning, beginning at 6.

The contra-indications for the subcutaneous test are high fever, positive clinical findings, hemoptysis heart disease, kidney disease (other than tuberculous) and convalescence from prolonged illness of any kind.

In the use of tuberculin as a therapeutic agent there are some points that must be constantly kept in mind.

First—Tuberculin is not a specific for tuberculosis.

Second—In the use of tuberculin as a therapeutic agent all the dietetic, hygienic and therapeutic measures usually employed should be rigidly adhered to. Tuberculin will help these effect a cure, but will not replace them.

Third—The contra-indications for its use in diagnostic agent, excepting that Carl Spengler's therapy are the same as those for its use as a Pearlysucht Tuberculin may be used in the presence of fever and mixed infection.

Fourth—That the action of tuberculin, which is a toxine, is to cause an increase of receptors for tuberculosis. First, attached receptors on cells near tuberculous foci; second, free receptors in blood current.

Fifth—That the union between these receptors and the toxic agent causes a local reaction similar to Bier's hyperemia, thereby aiding in the cure.

Sixth—The initial dose should not be started in less than six weeks after its use as a diagnostic agent and should be not more than 1-1000 mg, gradually increased on every fourth day till 10 mg has been reached or a cure effected.

Seventh—Should the patient show signs of anaphylaxis (hypersensitization) manifest by rise in temperature, increase in local and general symptoms, it should be withdrawn till symptoms have abated and begun again with the initial small dose.

Eighth—There are a few individuals so sensitized that they cannot take tuberculin.

Ninth—That it is absolutely useless to give tuberculin in advanced cases of tuberculosis for in these cases there is cachexia and as cachexia means destruction to cell life and as destroyed cells cannot produce receptors, therefore tuberculin, whose only action is to stimulate healthy cells to form receptors, is without value.

NEWS NOTES

Wm. Taylor, of Cincinnati, is seriously ill.

E. O. Smith, of Cincinnati, has been elected secretary of the Medical Department of the University of Cincinnati.

Otto Juettner, of Cincinnati, is receiving congratulations upon the appearance of his new book "Daniel Drake and His Followers."

J. R. Mossgrave, who is studying in Europe, will return about the first week in July.

The regular meeting of the St. Alexis Hospital Alumni Association was held at the Hollenden, Cleveland, Thursday evening, May 6, at 8 o'clock. The program was as follows: "Practical Application of Vaccine Therapy," Chas. McDonald; "A Paper," J. V. Gallagher.

DEATHS

Alta F. Cook, of Sandusky, Erie county, was found dead in his office May 14. A verdict of heart disease was given. Dr. Cook was one of the oldest and most esteemed members of the Sandusky County Medical Society.

MARRIAGES

Wm. Storey, of Castalia, and Rebecca McGookey, of Cleveland, May 8.

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ORIGINAL ARTICLES

THE LAW AND THE PROPHETS.

CURRAN POPE, M. D.,
Louisville, Ky.

Professor of Physio-Therapy in the University of
Louisville, Consulting Neurologist to the
Louisville City Hospital, Medical Super-
intendent of The Pope Sanitorium.

[Annual address before the Section on Mental
and Nervous Diseases of the Ohio State Medical
Association at the Sixty-fourth Annual Meeting,
May 6, 1909, Cincinnati.]

It is upon an occasion such as this that one realizes to the full the futility of words in conveying emotion; and in expressing my thanks I can only say that words fall far short in conveying my appreciation of the great honor that has fallen upon me in being chosen as your orator upon this most auspicious occasion. I cannot help but feel that I should rather come before your assembly and sit at the feet of Gamaliel to receive instruction or advice and for that reason it is with some hesitation that I address you tonight. I do not expect to present to you anything new or extremely radical, but shall endeavor to define the position of the doctor and the lawyer and discuss where they come in contact in their respective professions. At the present time every one speaks more or less loosely of the evils of expert testimony, even medical men do so, oftentimes, without a real knowledge of the conditions and facts that govern both sides. Tonight I do not come to defend the doctor nor to condemn the lawyer, but to try, if possible, to suggest a remedy.

What is a medical expert? He is a physician or surgeon who after proper training and experience in medicine and surgery, testifies to a hypothetical question, *supposed* to contain the facts; he does not testify to observed, but to inferred or assumed facts; that is to say, he gives an opinion. The value of expert testimony in medicine depends largely upon the care, accuracy and thoroughness with which the investigation of

facts or the examination of the litigant was made. This is equally true of other experts, but for some reason or other expert testimony has become a scandal, a by-word in the mouth of men which is, in my opinion, due to the prominence given to this kind of testimony by certain notorious cases occurring in the city of New York. This has largely been increased by the popular denunciation of the press, who with a unanimity far beyond belief criticised bitterly all expert medical testimony, some going so far as to say that it is purchasable by either side, regardless of facts. Too bad, isn't it? But the greatest abuse has arisen within our own ranks and those of the legal profession, while the laity as a whole looks on with distrust. This I think is due largely to attempts to release men from crime by the diagnosis of insanity, under the titles of emotional insanity, the so-called "brain storm" and by appeals to the passion of the "unwritten law."

Lay members experience a great deal of difficulty in understanding an explanation of the simplest process or action of the brain; they are hard to explain by even the most gifted, especially within the very limited time at the disposal of the doctor when upon the stand, and hampered by legal restrictions.

In answering the *hypothetical question* doctors are even abused for drawing contradictory conclusions from the same facts. I am rather constrained to believe that in reality if the facts were presented intelligently and clearly that *competent* experts would probably reach the same conclusion, although it must be borne in mind that the whole fabric of human life is permeated by the *personal* factor and that even in the plainest and simplest of observed facts men differ.

The jury after all must remain the judges of facts in order that Anglo-Saxon liberty, and the pursuit of happiness may be insured, and for that reason fundamental as it is, we cannot make any change in this part of the "due process of law."

How goes the fight? The jury is composed of laymen unused to legal fight or medical technicalities. In civil cases they dislike the occu-

pation for which they are summoned; in criminal ones they feel the moral strain intensely. In civil cases upon one side they are told that the corporation is being mulcted by unjust litigants, while if it were possible, it might be shown that the "poor" corporation lacks neither money, nor brains or system. Its influence is wide politically, publicly and socially; it is powerful, it pays surely, often well, and paints with a golden brush alluring pictures to many doctors. It has its well trained lawyers, equal to all the intricacies of the law; its trained experts, its business organization, its card index system, its physicians and surgeons. In criminal cases it is oftentimes a fight between the lawyers on either side, rather than a plain endeavor to reach *facts and justice*; and here we may remark that no more pernicious conditions exist than the political power that sways judicial rulings. If it is not actual, it is to say the least a peculiar and subtle bias, that is to be regretted.

The doctor is a citizen; usually a good one. He enjoys the privileges of his calling, is exempt from jury duty, is given latitude for his time and engagements, even as an ordinary witness and this because hardship may fall upon some of his patients. No higher tribute can be paid to the bench and bar than this willingness to not interfere with the physician in his work. If all men agreed upon all subjects there would be no need of political parties, religious creeds and worries would be unnecessary; in brief the Millenium would be here and brother would grasp brother by the hand. Physicians are sentient human beings and are as likely to hold different opinions upon any subject as any human being, and for that reason they have a right to differ in their interpretation of such questions as come before them.

To be an expert and give testimony presupposes extraordinary knowledge and experience. The ordinary witness testifies to facts seen and heard, but draws no conclusions; the expert *per contra* draws conclusions from the facts submitted to his knowledge as an expert. Too often courts permit men to qualify who are totally incompetent and it is the duty of the physicians themselves to maintain the highest standard of honesty, character and education and to insist that the expert shall not only bring experience, but a broad mind to his work, that he shall at all time be courteous, unafraid. These are necessary requirements of the expert and they should be truly and properly filled. All men cannot be experts or good experts, for one man often surpasses another in intellectuality and acumen, while the opinion of the other with the same ad-

vantages, would be worthless. My observation has been that the testimony in civil cases ranges from the corporation physician and surgeon who never sees anything, to the extreme medical expert who sees everything. One of the hardships the medical expert has to bear is being held up to the derision of the jury "because he expects to be paid." Isn't the judge paid, are not the jurors paid, are not the court's assistants paid, *even the lawyers are paid, usually the best of all*. For that reason all medical fees should become part of the cost of the case. The doctor is oftentimes forbidden to give a simple and lucid explanation of the case, but is compelled to follow the antiquated lines of legal methods and thus leaves upon jurors and spectators a wrong impression. He is battle door and shuttle cock, praised for all of his virtues on the one side, and damned, doubly damned on the other, he thus occupies the interesting position of being between his horned majesty and the deep azure sea. Doctors are often very unfair to doctors and I know nothing more derogatory to proper professional etiquette than a doctor sitting behind a lawyer prompting him in his cross-questioning. It is an endeavor to make a fool out of a fellow practitioner.

What right have the unqualified to express an opinion upon any subject, I would like to ask? This applies especially to conditions of the nervous system, whether they be questions purely mental in character or arising from trauma. Many physicians, and this applies with double effect to corporation surgeons, could not under a direct examination even name or define many nervous and mental states, and yet their opinions receive consideration equal to those of the expert neurologist and psychiatrist. I ask this learned and distinguished body of men, would they come and make these statements and express these opinions to such a well informed body of men as you? Doctors should never harbor animosity against lawyers who are honestly and squarely conducting their side of the case, but by this I do not mean that they should not feel as keenly as any other man an insult that the lawyer may give gratuitously, because of his position. If everything is upon a level he must bear the "slings and arrows of outrageous fortune."

We have looked upon that picture, let us look upon this; our friend, the lawyer. Let us first note that there is a very *great and grave distinction between justice and law*. Now the one clear aim of the lawyer is not the ascertaining of facts in support of justice, but the winning or defeat of the case in hand, although he is supposedly the one by whom we must look to uphold the very foundations upon which civilization rests.

Abstractly he supports them; concretely he ignores them.

I have observed that many lawyers are under the delusion that the law is an exact science, while medicine is most inexact and unreliable; this is untrue. If one-half of the law was as certainly fixed as one-half of medicine and if it had progressed *pari passu* with medicine, Eugene Ware, of Kansas City, would not have said, "There is not a law in our code of legal proceedings today that was not in effect in the city of Ninevah five thousand years ago, and which was not in Athens four hundred and twenty years before Christ." I am calling your attention to the legal side of this question not to condemn, but because the lawyer has been extremely active in heaping abuse upon the medical expert witness, and while we recognize within the barriers of our own profession a deplorable existence of things as they are, yet we are not so simple-minded nor do we lack the courage to make the bold assertion that no such amount of unethical conduct exists with us today as is found associated with the modern practice of law, for many more lawyers are given to brilliant methods of trickery than can be identified with the practice of medicine.

What are the main weapons of the lawyer in his endeavor to win his case? Denunciation, subterfuge, cunning and technicality, a powerful quadriga you will doubtless remark. The obliquity the self-righteous attorney casts upon the other members of his profession, especially the so-called "damage suit lawyer," the abuse he heaps upon honest medical men are often but the loud and blatant brayings, intended to avert attention from his own sins. It is astonishing to me that even the best lawyers, great corporation lawyers, are willing to degrade their profession by indulging in personalities with physicians rather than trying to get the truth before the jury.

Are the hands of the lawyers free of Lady Macbeth's damning stain? Their profession needs the lively purgation that is being applied to ours. By the aid of lawyers the trusts rob the people, shatter the social fabric and prey unmolested upon the people. Says a recent weekly (*Colliers*), formerly lawyers laid themselves open to criticism by helping thieves, murderers and other *vulgar* criminals; they were merely accomplices after the fact. Now the thing to which the public is more inclined to object is their habit of making themselves accomplices before the fact in crimes of a more *refined*, but more dangerous nature. The old fashioned criminal committed the deed by himself and then asked his lawyer to get him off. The modern financial criminal

rings his electrical bell beforehand and directs the salaried head of his legal department to plan his crime for him in advance. And these are the men who denounce the doctors. Verily, verily, I say unto you, "People in glass houses should not throw stones."

Said William Jennings Bryan to a gathering of lawyers in Chicago: "I believe the day will come in this country when we will not have so many men who sell their souls to make grand larceny possible. Perhaps sometime it will not be less disgraceful for a lawyer to assist in a gigantic robbery than for a highwayman to go out and hold up a wayfarer."

Says the Episcopal Recorder (Phila.) speaking of the report of a committee of the American Bar Association: "The question dealt with deals with the propriety of defending a person accused of crime, although the lawyers may believe him guilty. That this is within the bounds of propriety the committee agrees, on the ground that the welfare of the public demands, that no one shall be condemned save on the condition that his guilt has been established, by due process of law. But while this is permitted, no lawyer has the right to advise a great corporation as to how it may evade the law which seems to be the special demand made upon corporation counsel." Shades of blind justice to what foul ends thy devotees come! Shades of darkness! What care they for darkness! Are they not the "lights" of their profession.

REMEDY.

Will you think me an idealistic dreamer or believe that the Millenium hovers near or that Eutopia opens wide her doors and invites the legal and medical professions to enter, if I seem to possess the nerve to suggest a remedy, for this state of affairs? Our friends of the legal fraternity seem to feel there is no hope for changing present methods, but we must remember that they are unfortunately hampered by the massive millstone of precedent, while to the doctor change seems easy as the hypothetical question always appears to him like the practice of medicine "by correspondence."

I am told that the courts cannot at the present time dispense with the hypothetical question. I believe it would be a marked advance if it were composed by both sides. It should contain *nothing but facts*, actually developed at the trial; should be supervised by the presiding judge; then given to the physicians to study and from which they should make their deductions. This would prevent attorneys willfully distorting facts and the expert permitted to present his uncolored opinion drawn from the agreed facts. In civil

cases, or damage suits or where an individual is charged with crime, I am rather constrained to believe that if doctors were allowed to freely examine the individual and hold a personal consultation they could reach a decision among themselves and approximately a right one; *but the hypothetical question defeats this.*

I am not wholly in sympathy with the plan that incarcerates an individual charged with crime in an insane asylum for observation, unless it is a well known fact to the profession, that the observing physician is one versed in psychiatric practice. Many of the evils would be reduced if doctors would recognize the necessity of special knowledge and long experience and refuse to serve if they did not possess these; if they would examine and study their cases alone, free from suggestion, patent or subtle; if they would reduce to writing their conclusions and upon what they are based. For a number of years I have in my own state endeavored to impress upon the medical fraternity the following plan:

In civil cases the doctor who attends the case should never be allowed to give an expert opinion. He should simply be a witness to facts and as to what he knows about these facts. In other words he should be a witness *a facto* and nothing else.

A list should be furnished to the judges of the criminal, circuit and county courts of men who make a specialty of certain lines of work in medicine, general practice, surgery, neurology, mental diseases, gynecology, etc. This list should be carefully guarded and no man placed upon it unless he is known to be qualified as a specialist in his department, has had at least ten years experience and unless he is certified to as such by his county medical society.

The physicians who are placed upon the "judicial certified list," agree and bind themselves with their county society and with the judiciary, that they will at no time accept employment either from the plaintiff or defendant in any suit, criminal, civil, damage, or otherwise; in this way we get a group of men who occupy, so to speak, a quasi-judicial position in the medical profession. They are the men who will take the case and fight it out among themselves and bring in their report as a presentation of the facts as they actually exist in the particular person or the case at bar. These experts, or these men on the list may themselves in turn be witnesses as to facts where they have their own cases; but in that event, they are not to testify as experts, but simply to testify as physicians attending the case.

How can this be accomplished? If the petition alleges a sole injury of a surgical nature, then

the judge may by reference to his table of surgeons select two men who are qualified surgeons and certified to by their county medical society as such, who will go and examine that case. If, on the contrary, the petition or indictment avers or alleges that there has been a crime committed because of unstable mental equilibrium or that a surgical, an eye, an ear, or a neurological condition, the judge will appoint a specialist if one affliction or one from each and every domain, or for each and every allegation that is in the petition of that particular suit. In other words, we will get together a group of two, three or four men who are amply qualified to look at every side of that particular case.

The report of this commission is to be made on the agreed facts, to be made to the court alone, in writing, signed and sworn to. Conclusions are to be drawn from that report and a prognosis, if possible, given with the statement of what in their opinion would be necessary for relief, cure or as to the impossibility of cure.

The commission is not to testify unless so directed and called upon by the court itself, in which event the court alone is to question the commission. By doing this we at once rid the doctor of the harrowing back and forth of two lawyers in an endeavor to confuse the witness and to make him an object of ridicule in the public mind; the judge in asking him the questions will simply try to bring out the facts in the case, not favorably to the plaintiff or defendant necessarily. Another proviso should be that if the court, for instance, not knowing medicine, should appoint, say, two surgeons to examine a case and in their examination they found there were other lesions, for instance, as suspected blindness, then these physicians should have the right, with the permission of the court, of course, to call in a third expert selected from the judicial list to aid them in arriving at the actual solution of the problem with which they are confronted. The cost of the commission to be charged as court costs, a moderate fixed fee.

We must consider always our self respect, for unless we respect ourselves as a body we cannot expect others to do so and I am of the opinion that through concerted action of the medical societies and medical bodies that we will be able to secure for physicians respect as expert witnesses, provided it is the expressed opinion of the county and state societies that where lawyers indulge in abuse of the medical profession, that regular qualified physicians of the state should refuse to testify for them in order that we may insure and preserve our own respect and the

respect that is due a great and learned profession.

We have now in a cursory manner considered the law and how their mouthpieces, the prophets, regard us. It seems to me that it is time that medical men and legal prophets should get together and systematically correct the defects that exist. There has been handed down in our family a story of an ancestor, who upon observing a maiden of some sweet sixteen summers handling a magnolia, told her that the magnolia was like a woman's character, once touched it left a darkened stain that could not be effaced and that those characters in life who were untouched maintained their purity and their whiteness as did the magnolia and the lily, and it seems to me that we must endeavor to raise our profession to such a high appreciation of our mission as experts that we will retain at all times such a high regard for our profession, for our self respect, for our honor that we will keep it as the magnolia and the lily unsullied and unstained.

THE TECHNIQUE OF THE MODERN RADICAL MASTOID OPERATION, WITH SINUS THROMBOSIS COMPLICATION.

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Annual Address Before the Eye, Ear, Nose and
Throat Section.

[Read before the Ohio State Medical Association.]

The radical mastoid operation is performed for the cure of intractable discharging ears. Some surgeons consider a discharge intractable when it has existed three or four weeks; other surgeons never lose hope of curing a discharge. It seems reasonable to conclude a discharge as intractable after it has existed for two or three months, at least it is not then safe or wise to continue the use of conservative measures. Conservative treatment consists in the employment of cleansing processes by means of syringing either with or without bent canulae, moping, drying, powdering, cauterizing, etc. Ossiculectomy is a step towards radicalism, but the permanent cures are so few that most surgeons have become discouraged and abandoned the operation. It is only useful in cases of pure middle-ear diseases, unaccompanied with antrum involvement, and sometimes produces meningitis and facial paralysis. The so-called Heath operation is another step towards radicalism, and consists essentially in the performance of the classical radical operation, without the disturbance of the annulus

tympanicum, ossicles or attic of the tympanic cavity. This cesspool of infection and necrosis being undisurbed, except by irrigation and drainage, and being virtually the focus of pathological lesions, presents a most menacing barrier in the pathway of a cure, and allows a diseased condition to remain, which is and must be repugnant to the surgical sense of the modern aseptic surgeon. The good hearing prospects heralded by the friends of this procedure are more or less elusive in their materialization and should be considered where a radical operation is indicated, especially in view of the fact that the classical procedure produces very good hearing results in a large majority of the cases. The prolongation of life must ever be the first consideration. With this object in view the classical radical operation easily takes precedence amongst all proposed procedures for the cure of chronic aural discharge, it being always remembered that the discharge is merely the outward evidence of an inner, hidden pathological condition. This assertion is unfalteringly made with the full knowledge that cures are not always consummated and that brain lesions and facial paralysis sometimes result. These misfortunes are, almost always, the outcome of delayed operations and faulty technique, both of which can be overcome by prompt and more skillful surgery. This operation is extremely difficult to perform correctly, and should only be attempted by one possessing an accurate knowledge of the anatomy of the temporal bone and its surroundings, together with much cadaver work and observation of the methods and technique of experienced mastoid operators. The facial nerve, cerebrum, cerebellum, sigmoid sinus, superior petrosal sinus, jugular bulb, carotid artery, cochlea and semi-circular canals are all situated in the immediate vicinity of the small operative area and are liable to be injured by even a careful and experienced operator. The dangers besetting the inexperienced and careless operator can, therefore, be easily appreciated.

In describing the technique of the radical mastoid operation it is unnecessary to dwell upon the preparation of the patient, except to say that in female patients, while the hair is, of course, shaved for a little distance from the mastoid process, I allow the hair to remain in front of and over the ear for the sake of personal appearance. It may also be said that some apparatus producing intense, concentrated and constant illumination is essential to good work.

I make a long, slightly curved incision, just a short distance back of the auricle, extending from the extreme mastoid tip to the superior insertion of the auricle, severing the soft tissues to the

bone with one stroke of the knife. If this is not done the periosteum, etc., is cut into shreds, which is not only poor surgery, but is incompatible with swift healing. Some operators make a short, straight incision, which they are usually obliged to enlarge from time to time, thus producing not only an irregular wound, but fresh outbursts of hemorrhage, with all of the accompanying annoyances. Whiting and others make a short, straight incision, supplemented by another one running backwards at right angle to the first, for the purpose of affording a large operative field. With this method the self-retaining retractors cannot be used to the best advantage, which, I believe, is a distinct misfortune, as an operation proceeds much more smoothly when self-retaining and not hand retractors are used. With self-retaining retractors all soft tissue hemorrhage is promptly stopped without using artery forceps, which are always in the way; only one assistant is needed, which dispenses with a pair of hands around the operative field, and it is quite evident that tired arms and hands cannot produce as constant and steady retraction as automatic appliances. The backward incision of Whiting and others may be useful in those cases where extensive sinus work must be made, but these instances are exceptional and should not form the basis of all incisions. The long, curved incision with widely opened retractors, furnishes ample room for all ordinary sinus work and the consequent scar reduces the possible deformity to a minimum. The periosteum should be pushed away with as little damage as possible and the closely adherent tissues at the tip cut away carefully with curved scissors. The posterior cartilaginous meatus should be pushed forward from the bone, and the bony meatus (which is always a guide and landmark), clearly exposed to constant view. The retractors should now be inserted, one in each extremity of the incision, and expanded to their fullest capacity, thus insuring a stoppage of soft tissue hemorrhage and a complete view of the operative field. The incision should be long enough to prevent an interlocking of the teeth of the retractors.

Chiseling should be begun on a line parallel with the roof of the osseous meatus, and as close to the posterior wall of the osseous meatus as possible. Not much should be taken off at a time, as the location of the sinus is uncertain. It may be far forward, or superficial, or both, and care should be exercised, especially in children, until its location is ascertained. A broad, rounded chisel is to be preferred. The chisel may be directed from above downward or the reverse, or from behind forward, and the pos-

terior wall of the meatus may just as well be cut away as we proceed as to wait until the mastoid interior and antrum are exposed, as it saves time and affords at once a larger operative field. The antrum should be opened as soon as possible as it forms a valuable landmark for operative explorations, it being remembered that the antrum is situated higher and further forward in children than in adults. The mastoid interior should be thoroughly exposed and the upper portion of the osseous meatal wall broken through, care being taken to avoid injuring the facial nerve and the semi-circular canals. The angle of the mouth and the eye should be constantly watched by the anesthetist for twitching during the entire operation. In breaking down the meatal wall, etc., we should work as high up through the bone as possible, as the higher we operate the less likely are we to touch the facial nerve. The dura may be exposed in this effort but I have never seen any harm result therefrom, and I would much prefer exposing the dura than to touch the nerve. I regard this as a most important feature of the operation and that a strict adherence to this rule will safeguard most nerves. It should not be forgotten that it is a considerable distance from the location of the facial nerve in the upper, inner portion of the tympanum proper, to the roof of the attic and aditus, otherwise known as the tegmen. This affords considerable operative space above the nerve, where work can be safely and comfortably performed; but all of the intervening bone between the outside of the skull and the attic, aditus and antrum spaces must be thoroughly removed before much work in the deep recesses of the bone is undertaken. By removing this mass of hard bone (on the upper side of which lies the middle fossa of the skull with the temporo-sphenoidal lobe of the brain) so that the entire bony roof of the large osseous cavity is on a smooth level with the roof or tegmen of the attic, aditus, and antrum, nothing can be hidden from the eyes of the operator and the various subsequent steps of the operation can be accomplished with ease, accuracy and almost absolute safety. After the posterior bony meatus has been broken through and the meatus, tympanum, attic, aditus, antrum, etc., have thereby been thrown into one large cavity, the malleous and incus can be easily removed by hook and forceps, which very materially enhances the operating space and ease of further surgical procedures. This should, of course, be done gently to avoid an unintentional removal of the stapes.

After the upper portion of the bone has been thoroughly removed, as previously described, so

that the entire upper wall of the bony opening is as high up as the tegmen tympani, aditi and antri, the lower portion of the posterior meatal wall should receive careful attention. This wall should be as entirely removed as is compatible with facial nerve safety. Experience teaches that better healing results occur when this wall is thus removed down to the floor of the mastoid cells and osseous meatus than where a portion of it is left standing. The bony ridge should, therefore, be smoothed down to the level of the newly made large bony cavity, taking care, of course, not to extend this procedure far enough inwards to invade the situation of the facial nerve as it passes through the sclerotic walls of the inner meatal wall on its passage downwards to the stylo-mastoid foramen. It should be remembered that the jugular bulb lies just beneath that portion of the meatal wall left standing, for the purpose of preserving the facial nerve. A portion of the bulb lies beneath the floor of the tympanum and, extending backwards a portion, lies just beneath the deep recesses of the mastoid cells. The bone is thin in both places and care should, therefore, be taken in curetting, burring, etc., in these vulnerable locations. I believe it wise, for purposes of better drainage, to cut or burr away a good deal of the meatal floor, as well as the base of the posterior meatal wall, and am satisfied that this procedure has considerably improved my results.

In practically all posterior meatal walls in the meatal surface will be found just beneath the course of the nerve, a cavity which may be called the meatal fossa. This fossa is usually full of granulation tissue, etc., which I carefully remove with a dull round burr or curette, care being taken not to work too vigorously for fear of nerve traumatism, or too far inwards for fear of invading the stapes, the foramen ovale, or the nerve in its deeper or tympanic location.

The thorough treatment of the aditus and deeper recesses of the antrum is a procedure of great importance and unremoved necrosis in this location is often the cause of delayed healing. Diseased bone should be thoroughly removed and a smooth osseous surface produced, care being taken not to perforate the inner, bony partition of the antrum, on the under surface of which rests the superior petrosal sinus. The aditus is best smoothed by the gentle use of a very small, round, dull burr.

In removing the meatal wall and in scraping, burring, curetting, etc., in the inner recesses of the bone, in such places as the antrum, aditus, etc., care must be exercised not to invade the

semi-circular canals, although this is often done without injury to the patient.

The use of the electric engine I regard as essential to the best operating. By this I do not mean to say that splendid operations are not made without the engine, but I believe that the men doing such excellent work could operate better and safer with such a machine. There are many places where it is extremely difficult to do thorough work with curettes, chisels, etc., that can be readily reached with an engine-driven burr. I also believe that dangerous locations, such as around the sinus, semi-circular canal, facial nerve, etc., can be more delicately and safely treated with an engine than without one. Of course, one must become skilled in the use of the machine to do the best work, and its employment is often discarded by operators after a few discouraging trials. The handle should be firmly held and steadied by both hands, in order to avoid slipping or jumping of the burr, as it is apt to do when merely held like a pen, in one hand. I have a large assortment of burrs, made for me by the Victor Electric company, which I have found necessary for good and safe work. Some of these are large, sharp, olive and round shaped burrs, suitable for vigorous rapid work in safe locations. Other burrs are round-shaped of large and small sizes, with dulled or smooth surfaces, which I employ in dangerous situations. I use the chisel and mallet to open the mastoid, to "shape up" the bony cavity, to cut through the posterior meatal wall, to cut away a good share of the bone covering the attic, aditus and antrum, and to cut away a good share of the lower portion of the posterior meatal wall; after this the engine and drills do most of the work and when I am through I am to leave the large osseous cavity almost as smooth as a piece of polished ivory. From time to time throughout the operation, I wash out the cavity with a strong stream of warm water propelled from a powerful syringe; this washes away blood, bone chips, bone dust, etc. When using the burrs the cavity should be kept moist, as otherwise the heat of the burr becomes excessive. I frequently pour into the cavity a dropperful of adrenalin, which controls the bone and granulation hemorrhage and affords a clearer view of the operative field.

The last portion of the bone operation is to do what is necessary for the tympanic cavity, and in this matter opinions differ widely, some operators advocating thorough cleansing, curetting, etc., and others advising that this cavity be left almost alone. I will merely indicate at this time what I, myself, am in the habit of doing. For

this work I select a small, round, smooth burr and gently pass it over most of the tympanic cavity, using the slowest speed possible to the engine. I avoid the location of the stapes and facial nerve, but all other portions of this space are gently smoothed off by the round, smooth burr, running at slow speed. The handle must be held firmly by both hands to avoid jumping. I then locate the tympanic orifice of the eustachian tube, in which will usually be found some granulation tissue, which should be curetted away. I then rim out the opening with the round, smooth the carotid artery. I then use round hand burrs rings or curetments to press the instrument forwards instead of backwards to avoid injury to the carotid artery. I then use round hand burs of various sizes, and curettes, with which to thoroughly, but carefully, clean out the inner portions of the eustachian tube. This part of the operation should be performed with extreme care and thoroughness, as the sealing up of the eustachian tube is of the utmost importance, as without it a dry and completely cured ear is almost impossible.

Of course, openings through the bony walls into the brain, sinus, labyrinth, etc., should be searched for and such action taken as seems necessary in each individual case, but a discussion of these phases of mastoid work would carry me beyond the boundaries of my subject and I will, therefore, merely say that after this has been done the retractors should be removed and the flap made to facilitate healing.

I use a modification of the Panse flap, and I insert a double-edged knife through the auricle from behind forward and penetrate the auricle just a little back of the meatal margin, remembering that the further back the opening is made the larger will be the meatus when the case is healed. Using the double-edged knife as a guide, I then insert a backward curved, round-pointed bistoury through the opening made by the double-edged knife, and then withdraw the latter. With the bistoury knife I enlarge the opening up and down in a graceful curve to imitate the shape of a natural meatus, after which a divulsor is inserted into the cartilaginous meatus from in front backwards, and the blades expanded to their utmost capacity. The lower blade should now be used as a guide, and a knife should split the cartilage from behind forwards up to the other opening just made; this manner of cutting the cartilaginous meatus throws most of the tissues into the upper flap, where it is most needed, as there is practically never any trouble in healing over the floor of the mastoid and meatal cavities. The outer angle of the upper flap should then be

sutured with catgut to the soft subcutaneous tissues with one suture, in order to hold the flap up into place, after which the cavity should be gently but firmly packed with gauze, and sutures should close the mastoid wound. I prefer the Michel or metal sutures, as I believe they produce a quicker and cleaner healing and a less conspicuous scar than other sutures; they can be removed in three or four days. The meatus should now be expanded as widely as possible by packing, the mastoid wound covered, and a bandage applied. The patient usually leaves the hospital in a week or ten days and is usually cured in from six to eight weeks.

I am rarely obliged to do any kind of grafting operation. The post-operative care involves patience, experience and good judgment. They should be packed with gauze for a while and I prefer small bits of gauze, inserted into the various concavities, with a small, narrow, rough-edged packer, to one or two long pieces of gauze. Packing should be discontinued as soon as possible; that is, as soon as the cavity shows a disposition to retain its proper shape without packing, which often happens in a very short space of time. The cavity should be syringed when necessary, but merely wiped dry when the secretion is slight. Before ending the dressing the parts should always be dusted with some antiseptic power; I prefer xeroform. Very seldom granulations form and may be treated by the curette or tincture of iodine or with both.

After these cavities are healed they should from time to time be washed out and flushed with alcohol, as otherwise the ill-nourished skin desquamates and becomes unhealthy and presents the appearance of an unhealed case on account of the discharge.

Your committee has requested me to say something to you concerning the operation for thrombus of the sigmoid sinus and internal jugular vein of otitic origin. This subject is not, of course, particularly connected with the topic upon which I have just been speaking for, as a matter of fact, phlebitis and thrombosis of the veins usually occurs as a result of *acute* and not of *chronic* mastoid affections. Phlebitis and thrombosis of otitic origin may occur in any portion of the venous system contiguous to the ear, but the most frequent point of attack is the sigmoid bend of the lateral sinus, on account of its close proximity to the usual focus of trouble, viz., the mastoid antrum and upper mastoid cells. Intravascular disease of the sigmoid sinus is usually accompanied by necrosis of the overlying bone and with characteristic sinus symptoms, such as erratic flights of temperature, chills, high

differential blood count, mental aberrations, the presence of streptococci in the discharge of blood, etc. Under such circumstances it is as a rule wise to open the sinus and investigate and treat its interior. The overlying bone can be removed by small and delicate rongeurs, care being taken that only small pieces of bone are cautiously removed at a time, the bony and soft sinus having been previously gently separated by a spatula to prevent pieces of the dural covering from being pulled away with the bone which would, of course, greatly embarrass the operation by the sudden invasion of violent hemorrhage, when this is not prevented by a thrombus. All necrosed bone should be removed and enough healthy bone to afford ample operative space on the sinus, for this work cannot be properly performed in contracted quarters. Should granulations exist, they should be removed. An inspection of the sinus is by no means an accurate guide as to the condition of its interior, for, while usually of a bluish-gray color it may be stained dark from its necrotic osseous covering while no intra-venous disease exists, or a thrombus may be present when the sinus looks healthy. Besides this a small or parietal thrombus may exist in the case of a thoroughly compressible sinus, and it is only when a thrombus can be distinctly felt through the sinus walls that a positive diagnosis can be made and it is not wise to seek a diagnosis by either aspirating a sinus or stroking it, after the manner of Whiting, for fear of infection on the one hand, or liberating small clots, to be floated in the general circulation, on the other. Nevertheless, a diagnosis is not as a rule difficult and can usually be made with reasonable accuracy by such symptoms as have already been mentioned, supplemented by a careful sinus inspection for, fortunately, a mastoid operation is practically always necessary in such cases and the sinus inspection can be made at the completion of the mastoid operation or later, being careful that all sinus operations should be performed under strict antiseptic precautions, and that owing to the possibility of the occurrence of a fatal aspiration of air into the sinus, the head should be dropped low during such operations, and the parts kept flooded with sterile water.

The sinus should be opened by a free incision along its length, being careful to avoid the opposite wall of the sinus and the underlying brain. If a complete thrombus is present no blood will flow; if the flow is slight an incomplete thrombus is present; if it is abundant either no thrombus or a small one is present. Either end of the sinus must be judged by itself as a thrombus may be lodged in the upper end and not in the lower, or

vice versa. Small thrombi are often washed out by the first blood and are never seen, but the symptoms disappear and the patient recovers. Two small gauze pads grasped in fixation forceps should be ready, and in case hemorrhage occurs they should be firmly, accurately and carefully placed and held one above the sinus incision and the other below it. This will stop the hemorrhage and one after the other may be lifted and each end of the sinus studied as to hemorrhage, its character and extent. If free hemorrhage occurs from both ends the absence of a thrombus may be assumed and layer after layer of iodoform gauze should be packed against the sinus and retained with a bandage, which will easily control the hemorrhage. Should blood freely flow from the bulbar end of the sinus and only a small stream or none at all from the torcular end, a thrombus in the latter portion should be assumed. Some operators remove it all until blood flows freely, even if the bone has to be cut away as far back as the torcular in order to get at it; others consider that inasmuch as the blood flows from the torcular downward, the upper portion of the clot is aseptic and allow it to remain. If the clot is soft and unhealthy I remove it all with a small curette, being careful not to perforate the sinus walls; if it is hard and healthy in appearance I remove all that appears diseased and leave the balance to form a healthy obstruction against hemorrhage or the passage of infective micro-organisms. Curetting procedures can be greatly facilitated by the removal of large areas of the outer dural coverings of the sinus; this also exposes for inspection and treatment the intrasinus openings of the mastoid emissary vein in the lower posterior wall of the sinus, and the superior petrosal sinus in the upper anterior wall of the sinus. In cleaning out the bulbar end of the sinus a more serious situation is faced as it is much less accessible than the torcular end and much more apt to be infected, and from it infection is likely to proceed to the internal jugular vein, heart, etc., both from its own identity and because the blood current from the inferior petrosal sinus (flowing into the jugular bulb) passes over the infected thrombus and carries its disease into the ultimate circulation. While, therefore, it is necessary that this end of the thrombus should be removed by curettement or otherwise it is extremely difficult to accomplish this purpose even where the bony sinus walls have been removed as far downward as possible for after the bulb is reached the great irregularity of the bony walls is such as to render the passage of a curette exceedingly difficult and frequently impossible. Of course, the thrombus does

not always extend far enough down to produce embarrassing complications, in which case the clot may be curetted away and the circulation restored, but in case this fortunate result is not attained work of considerable gravity must be considered. Under these circumstances it is better to operate upon the internal jugular vein at once rather than to undertake the bulbar operations of Grunnert, Voss and others. The thorough removal and ligation of the vein is probably the best procedure whenever a jugular operation is indicated at all, as it is the surest method of preventing general pyaemia and may be readily performed by any good aural surgeon with a little practice on the cadaver.

The shoulders should be elevated and the head dropped so as to clearly define the cervical anatomy and prevent aspiration, after which the parts should be thoroughly prepared for operation. A long incision should be made along the anterior border of the sterno-mastoid muscle, extending from the mastoid tip to the clavicle, tying all bleeding vessels and exposing the oblique fibres of the platysma myoides muscle. This muscle should be likewise severed, using the anterior border of the sterno-mastoid muscle as a guide until the latter muscle is unobstructedly exposed. The parts should be held apart by retractors. The external jugular vein, running straight down the neck from the angle of the lower jaw to the middle of the clavicle, can be plainly seen and may be held aside for deeper work or may, if necessary, be double ligatured and removed. Retractors should now hold back the sterno-mastoid muscle and the internal jugular, carotid pneumogastric nerve, etc., fully exposed to view, which will be greatly facilitated by pulling and tearing away the overlying tissues by blunt instruments and fingers instead of employing scissors and knives, which sometimes do great injury to vessels and nerves. The deep fascia of the neck lies directly underneath the mastoid muscle, upon severing which the common sheath of the jugular, carotid and pneumogastric nerve will be seen and should be gently torn and held apart. The vein lies to the outside of the group, is bluish-white in color, becomes prominent on expiration and collapses on inspiration, and swells up by pressing upon it in the lower part of the neck. The artery is red and pulsates and can be readily distinguished, but the nerve can be easily tied with the vein unless care is observed. The vein should be thoroughly liberated from the upper to the lower portion of the neck and the lowest catgut ligature applied as near the clavicle as possible, while the highest should be applied as close to the mastoid as pos-

sible above the facial vein. Two more ligatures should now be applied close to the other two, leaving a little space between them, and the vein cut between the two pairs of ligatures at the upper and lower extremities of the neck. There are four important tributary veins, all entering the jugular on its anterior side; they are, from below upwards, as follows: The *middle thyroid*, the *superior thyroid*, the *lingual* and the *facial*. If small they may not need tying, with the exception of the facial, and after they are all cut the jugular may be easily lifted and taken away, after which the parts should be thoroughly and quickly cleaned. The upper suture should now be removed; if blood flows freely through the jugular stump and bulb it indicates a non-thrombosed inferior petrosal sinus and the venous walls should be quickly curetted and resutured; if blood does not flow freely the bulb, vein, and inferior petrosal sinus should be thoroughly curetted until free bleeding occurs, after which the ligature should be reapplied. Intra-venous irrigation should not be attempted for fear of producing petrosal infection. The neck wound may be sutured with cigarette drains at the upper or lower extremities or, in extremely badly infected cases, the wound may be drained, and drawn together with adhesive straps, to be opened from time to time and cleaned until healing occurs. This makes a frightful scar but is sometimes justifiable.

The sigmoid sinus should now be recuretted, cleaned and packed and the head and neck abundantly padded with gauze and cotton and then bandaged.

If the patient's condition is very grave before the operation an intra-venous injection of normal salt solution at a temperature of about 106 should be given (about sixteen ounces) and if shock occurs during the operation the same thing should be done. If necessary, from one to two pints of the solution at a temperature of about 112 may be injected into the bowels, abdomen or breast instead of into a vein.

The addition of a little oil of citrodella to an ichthyol ointment robs it of its disagreeable odor.

Yellow salve soon turns brown on exposure of light, if made with lard as a base. Cold cream or lanolin makes a good base. It should be kept in a porcelain jar with a screw top.

Gastric lavage is the best post-operative anti-emetic.

—Surgical Suggestion.

THE DIAGNOSIS OF SYPHILIS.

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Within the past few years, the subject of syphilis has been materially enhanced by the discovery of the apparent cause the spirochete pallida, and by the elaboration of the Wasserman serum reaction, a diagnostic test of conceded positive value. It is the intention of the writer to consider within the brief time and space allotted for the preparation and presentation of this paper the practical value of these two questions upon the clinical diagnosis. The nature and character of the spirochete pallida is sufficiently long established and generally well understood to require no special comment. Its detection and recognition has been greatly facilitated by simpler technical modifications in staining, after the Goldhorn, Levaditi, Hasting and other methods, and by means of the indirect examination by refracted light, as generally employed in the past for the microscope examination of crystals and opaque substances. Its elongated spiral character and rotating and undulatory movement well adapt the organism for this simple method of examination, which merely requires a drop of the suspected fluid without involving the technical difficulties encountered in the examination of stained specimens. This method of examination is so facile in accomplishment and so alluring in its possibilities, that a number of microscope makers have placed upon the market accessories to their instruments for such examinations and have explained to the profession that a simple easily executed, and absolute method of detecting the presence and absence of the true cause of syphilis in all suspected cases is now at the command of every physician. Before dismissing this phase of the subject, and without wishing to enter into too much detail, the writer wishes to state that there are spirochete, which bear a most deceptive resemblance to the pallida, or the true cause of syphilis; the resemblance is at times so close that a differentiation is not possible with stained to say nothing of unstained specimens. These spirochete are found abundantly upon the surface of many indistinctly non-syphilitic lesions which bear a doubtful clinical similarity to syphilis, particularly when their surfaces are moist and

abraded or when the lesions are situated upon mucous membranes. In other words the recognition of the spirochete in every doubtful lesion, for it is only in doubtful lesions that its recognition can possess practical, other than scientific value, depends necessarily upon morphologic differences relative rather than absolute in character. This differentiation is based chiefly upon such relative distinctions as deeper and more superficial location, thicker or thinner, longer or shorter, more or less wavy body, more or less numerous spirals, and more or less deeply staining properties. These variable characteristics render it impossible at times for the skilled microscopist to make an absolute differentiation, and some maintain that a differentiation upon buccal mucous membranes is entirely out of the question. At the best the recognition of the spirochete is not as absolute and certain as that of the gonococcus or the bacillus of tuberculosis, yet no one, in the absence of all clinical manifestations, would feel inclined to establish these diseases upon the morphological presence of these germs.

Unfortunately the trend of the present-day spirochete investigation is to establish the diagnosis, and warrant early treatment in every otherwise doubtful form of initial lesion, and thereby inhibit further clinical developments, conclusively confirmatory in character, upon its pure morphological presence. The writer is firmly of the opinion that no graver error can be committed in the treatment of syphilis than the institution of constitutional treatment before the appearance of the roseola or the other confirmatory forms of secondary syphilis. He shares the views expressed by Taylor, Dühring, and numerous others, that nothing is lost and much is gained by deferring the institution of constitutional treatment until the roseola has manifested itself. Watrezenski, who has given the subject much careful study and investigation, maintains that most of the severe intractable cases, most of the late involvements of the brain and cord have occurred in individuals where treatment was instituted relatively early. The physician who fails to recognize the disease in its unmistakable form does not commit a more grave error than he who rushes to treatment with a premature diagnosis.

Doubt almost invariably arises in the mind of a patient and physician in prematurely treated cases, sufficient to render the after treatment half hearted or to withdraw the patient entirely from observation and future attention.

The spirochete studies unprotected have led, and will doubtless continue to lead, to the expression of views and fallacies of dangerous, if not pernicious character. It has been stated that

the earlier the treatment is instituted the more ideal its character. This is an assumption that is as equally difficult to disprove as to prove, for the reason that the syphilitic infection is an exceedingly variable quantity, in all of its important phases, some cases running mild, others severe courses under apparently similar conditions. If the above is true (and unless true there is little basis for premature treatment), prophylactic treatment should be even more ideal.

It has come to my experience on several occasions to meet individuals who incurred a fresh infection of syphilis at the time they were undergoing constitutional treatment for a presumptive pre-existing infection. Most of these cases occur at the hands of physicians who are advocates of early diagnosis. I wish to briefly recite two which recently came to my personal notice, and within the pale of my personal experience.

J. R. W., an intelligent dentist, aged thirty-eight years, married, presented himself October 3, 1907, with a typical *ulcus durum* in the left sulcus coronarius and markedly enlarged inguinal glands. The diagnosis of an initial lesion was confirmed by the appearance of the roseola on October 21, 1907. Patient stated that he had not held sexual relations with his wife for several years, and had cohabited solely with Mrs. N. S., aged twenty-seven, a grass widow of five years, who presented herself for an examination October 27, 1907. The records of the case state that she showed at the time "slight general adenopathy, a mild erosion of the uterine cervix, and a small abrasion of vaginal mucosa." She strongly maintained that she had not maintained indiscriminate carnal relations with any other individual and under the doubtful impression that her infection may have dated to her former marriage of five years ago, treatment was instituted in order to give her the benefit of any doubt. Insoluble mercurial injections were instituted February 11, 1908, and on May 8 patient developed an unusually well marked roseola, and other symptoms of a rather severe type of syphilitic infection. Severe and intractable tonsillar plaques manifested themselves on September 9, 1908, and the general course of the disease has been rather severe, in spite of the fact that the patient received deep muscular injections of thirty grains of metallic mercury fifty to ninety days prior to the development of the roseola.

More striking in its aspects is the following case:

H. S., aged twenty-six, presented himself at the Cincinnati Polyclinic, November 7, 1905, with a soft chancre. His case was diagnosed syphilis by an assistant at the clinic, December 11, 1905,

and mercurial injections promptly instituted. The records fail to state upon what additional evidence the diagnosis of syphilis was at that time based, but on the result of that diagnosis, patient received at the assistant's and at my personal hands, four courses of deep muscular injections of 120 grains of metallic mercury in sixty separately administered injections. The last course was begun January 19, 1907, and ended March 9, 1907. On May 18, 1907, patient presented a typical genital initial lesion, which was followed by a characteristic and well developed roseola. Two years of thorough and carefully administered preliminary treatment did not attenuate or materially modify the character of the early manifestations in this case.

Experience of this character makes it difficult to realize what material good can be obtained by the institution of constitutional treatment with the appearance of the initial lesion. Relatively few physicians conversant with the present-day knowledge on the subject would willingly submit to treatment which once instituted, is in a position to forever mask the true nature of the affection, unless that diagnosis were clearly established as far as circumstances permit beyond the question of a reasonable doubt. If we are true to our calling we can claim no privileges for ourselves over those of our patients.

In an affection where so much is wagered by the diagnosis, I wish to utter an emphatic protest against the present day tendency towards an early snap diagnosis. I do not believe that the presence of the spirochete pallida or its morphologic analogy "is sufficiently positive to warrant the immediate institution of treatment." Nor do I believe that "after demonstrating the organism in a primary lesion, it is not only unnecessary but harmful to wait for secondary manifestations, and that the most logical therapy in all cases is the immediate institution of constitutional treatment." Statements of this character in our widely circulated journals are dangerous in their off-hand and premature presentation, and pernicious in their unfavorable influences. The institution of immediate treatment is not warranted unless the presence of these organisms are "absolutely" (and not "sufficiently") positive in character. A positive diagnosis in syphilis is more easily essayed than a negative one, and once made is usually forever buried. The greater the clinical evidence upon which it is based the more steadfast and secure rests the future diagnostic structure. I do not believe that bacteriology in this affection has yet reached the degree of perfected development that it overshadows in its importance the clinical features. It possesses

in this as in most affections, a confirmatory scientific, but at best somewhat dubious clinical value. In syphilis, a notoriously chronic affection, the successful management of which covers years, a few weeks start in therapy of questionable material worth, is more than offset by the loss of clinical confirmation or negation of the greatest positive value.

THE WASSERMANN SERUM DIAGNOSIS.

The underlying principle of the Wassermann reaction is the power of the serum of one animal to dissolve the red corpuscles of that of another. This so-called hemolytic power, present in every individual and animal can be materially increased by repeated injections of red corpuscles into that animal. For example, the power of rabbits' serum to dissolve the red corpuscles of sheep can be materially increased by a few repeated injections of red corpuscles into a rabbit. These repeated injections produce a product in the rabbit called an amboceptor, and this amboceptor possesses the power to unite on the one hand with a product called a complement, which is present in every normal serum, and on the other with the red corpuscles. This union of amboceptor, complement, and red corpuscle forms the hemolytic system, and effects hemolysis or the solution of red corpuscles. Amboceptors are also formed in blood serum in many infectious diseases, including syphilis, and these amboceptors possess the property of uniting with the complement on one hand and its special bacterial infection on the other. The special bacterial agent for the Wassermann test is obtained from the liver of a syphilitic fetus. The complement is thermolabile, i. e., its activity is destroyed when it is heated to 55 degrees C. for one-half hour. The serums of the patient and rabbit are inactivated by heating them to 55 degrees C. for one-half hour, in order to remove every trace of available complement, and the latter obtained fresh from the serum of a guinea pig is then added in definite quantity.

In the Wassermann test, observing the above conditions, we take a definite quantity of suspected patient's serum. A definite quantity of guinea pig complement and antigen or extract of syphilitic liver are then added. If the patient has syphilis, syphilitic amboceptors are present in the serum, and they effect a union of all the available complement and the antigen. In other words, all the available complement is promptly used up. If syphilis is not present, its amboceptors are absent and a union of antigen and complement is not effected. Rabbit serum amboceptors and washed sheep corpuscles are now added to the two preparations. In the syphilitic serum,

all the complement having been used up in the previous reaction, union of the amboceptors and corpuscles does not take place. In other words there is no hemolysis. On the other hand, no reaction having taken place in the normal serum, owing to the absence of syphilitic amboceptors, the complement is still available and a reaction of the red corpuscles, amboceptors and complement promptly takes places. In other words, we have hemolysis.

This test, though it involves an extensive and well equipped laboratory, an intricate, painstaking and somewhat skilled technique, and requires scrupulous care and delicacy in the management of its numerous details, has yielded surprisingly reliable results in the hands of able, experienced and trustworthy investigators. The percentage of positive reactions varies somewhat with different investigators with a variation as low as 40, 70 and 50 per cent for the primary, secondary and tertiary stages, respectively, to 60 per cent for the primary and 90 per cent for the subsequent stages. In all cases of doubtful clinical character, a positive reaction is strong evidence of the pre-existence of syphilis. The fact that the greater percentage of positive reactions occur in the later stages of the disease, when clinical confirmation is no longer forthcoming, gives the test a specially significant value.

The Wassermann serum test possesses one serious theoretical flaw, inasmuch as the antigen need not possess specific properties. The extract need not be derived from syphilitic organs, but may be lipoid in character, and consist of lecithin, or be derived from egg albumen, normal organs, new growths, etc. This flaw is fortunate in one aspect in that it bids fair to greatly simplify the technique and bring it within the pale of every practitioner. The combination of lecithin may be effected with a toxin instead of a micro-organism, same as occurs in tetanus.

The knowledge that lecithin acted as an antigen led Porges and Meier to add a two per cent of a suspension of that substance in distilled water, to suspected syphilitic serum. If the patient was syphilitic, the fluid became flocculent in five hours. This test at the hands of numerous investigators gives about sixty per cent positive reactions in suspected cases. Unfortunately it gives about the same percentage of reaction for tuberculosis, which renders it unreliable in character.

It is well known that anti-bodies formed in the course of infectious diseases are globulin in character and can be precipitated, some probably more others less, freely and easily. The Klausner test is based upon this assumption, whereby he ob-

tained a distinct precipitate when syphilitic serum was mixed for fifteen hours with distilled water. The method, though exceedingly simple, does not possess sufficient reliability to give it material worth.

What promises to become a satisfactory, accurate and trustworthy method has been lately devised (*Jour. of Experimental Medicine*, January, 1909), by Dr. Noguchi, of the Rockefeller Institute of New York. Globulins are present in the sera of both normal and syphilitic blood, according to the investigations of Elias, Neubauer, Porges and Solman, but in much greater quantity in the latter condition.

Certain proteid substances have been recognized in the spinal fluid of paretics and tabetics long before the discovery of the Wassermann reaction. Noguchi made careful quantitative analyses of the amount of globulin present in normal and syphilitic sera, and the disparity has been found sufficient to permit a differentiation that bids to become almost absolute in character. The disparity is sufficient to permit a relative differential estimation, and a simplification of the technique to the degree of making it meet the ordinary requirements of a practicing physician's laboratory.

Noguchi's method, by which the globulins are precipitated with diluted butyric acid as quoted and slightly modified by de Santos-Saxe, is as follows:

To 0.5 c. c. of serum, add 4.5 c. c. of a half saturated solution of ammonium sulphate. The mixture is centrifuged for one-half hour, until the precipitate is solid enough to permit decantation of the clear supernatant liquid. The precipitate is then dissolved in 5 c. c. of normal salt (0.9 per cent) solution. The solution is next mixed with an equal volume of one part of liquid butyric acid (60 per cent) in five parts of normal salt (0.9 per cent) solution. The mixture is well shaken and allowed to stand at room temperature. If the serum is normal there is at the end of two hours none or at the most slight opalescence. If it is syphilitic in character, a dense cloudiness promptly forms, which soon becomes flocculent, and leaves a deposit in the bottom of the tube. The results from this method are in close relation with the Wassermann reaction, and the positive percentages are even somewhat higher, and the negative somewhat lower. In the cerebrospinal fluid tests for paresis and tabes, the percentage was uniformly positive, showing that close relationship exists between increase of globulins and leucocytosis.

It now remains for future investigation to confirm the early results of Noguchi and his con-

freres (de Santos-Saxe, Fox, etc.). The relative ease, simplicity and convenience with which it can be performed, under the most general circumstances and conditions, promise for it a very broad and general field of application. Its careful elaboration from more intricate, difficult, tedious, but clinically successful methods, and the scientific character of the truths and principles upon which it is based, assure for the method careful, widespread and considerate attention.

My personal experience, covering some fifty-two cases in private practice, with the method has not been gratifying or satisfactory in character. In fact the laboratory tests have persistently been at such variance with the clinical data, that I have long discarded the test as a routine measure. These results, briefly stated, are as follows: The total number of cases was fifty-two. Of this number, forty cases gave a positive clinical history which I have been able to confirm from my personal and direct observation and examination, without exception. The cases varied at the examination from the initial lesion (amply confirmed by later developments) to late syphilis, of fifteen to twenty or more years standing. Of the remaining cases eight were negative and four of doubtful character. (See table.) Of this number thirty-seven out of forty gave a positive reaction. Seven out of eight negative cases, however, were likewise positive, and three out of four doubtful cases were likewise positive. Only five reactions out of the total of fifty-two cases were negative in character, and three of these were clinically positive. Though 92.5 per cent of positive cases were positive, 75 per cent of doubtful cases were likewise positive, and only 12½ per cent of negative cases were negative.

My personal experience leads me to believe that the test as prescribed in its present form is unreliable and untrustworthy. I am inclined to believe, however, that a more careful elaboration of its details, accompanied by painstaking investigation and future study, may accord it great future possibilities. I am strongly inclined to this view, by certain variations in early and late results. In the beginning, before I began to tabulate my cases, and while engaged in the art of perfecting myself in the method, my early results were all negative in character. In the end they have been almost uniformly positive. In the beginning I experienced great difficulty in precipitating my globulins with Merck's half saturated ammonium sulphate solution. I soon learned that a freshly prepared saturated solution of ammonium sulphate at 37 degrees c.° was not as strongly saturated as an overly saturated solution, which was allowed to stand for several days. Moreover

there is a marked disparity in the details of the examination as originally laid down by Noguchi and some of his followers. Noguchi, for example, adds to 1 c. c. of serum, 4 c. c. of a half saturated solution of ammonium, whereas Saxe adds $4\frac{1}{2}$ c. c. of ammonium sulphate to only $\frac{1}{2}$

character of the results. The difference at best is only a relative one, a question of a media being more or less cloudy or opalescent, and any factor which will in the least prejudice this feature, must receive careful and scrupulous consideration and attention. The careful study of the future

No.	Positive	Doubtful	Negative	Duration	Treatment	Noguchi Serum Test	P. D. Co.'s Taurin Test	History or Symptoms Present
1	Miss E. V. W.			5 yr.	5 yr.	O		Palmar syphilide.
2	C. McC.			9 mo.	9 mo.	+		Ulcus durum and roseola.
3	Mrs. F. G.			1 yr.	8 wk.	+		Recurrent papular syphilide and mucous plaques.
4	J. B.			30 yr.	9 yr.	+		Serpiginous syphilide of scalp.
5		A. C.		30 yr.	1 yr.	O		Indefinite hist.—exam. negative.
6	J. K.			20 yr.	3 yr.	+		Tertiary syphilide of arm.
7	J. D.			18 mo.	18 mo.	+		Ulcus durum and roseola.
8		J. B. C.		3 yr.	3 yr.	+O+++		Hist. chancre; suspicious pigmentation.
9	Mrs. A. B. G.			3 yr?	None	+		Serpiginous syphilide of nose.
10	A. G.			3 mo.	3 mo.	+		Ulcus durum, roseola and mucous plaques.
11	A. P.			15 yr?	2 mo.	O+	O	Ulcus durum and leucoplakia.
12	O. McC.			7 mo.	7 mo.	+		Ulcus durum and roseola.
13	F. B.			6 yr.	6 mo.	O++		Serpiginous syphilide of face and cicatrices on tongue.
14	H. U.			40 da.	40 da.	++		Ulcus durum, roseola and mucous plaques.
15	J. J. M.			8 mo.	6 wk.	++		Papular syphilide.
16	W. H.			6 yr.	6 yr.	OO		Ulcus durum and roseola.
17	J. C. S.			8 yr.	8 yr.	++		Ulcus durum. Serpiginous syphilide of nose.
18	N. S.			9 yr.	9 yr.	+O		Ulcus durum and roseola.
19	J. T. H.			10 yr.	3 wk.	++		Chancre redux.
20		I. H.				OO		Tuberculosis Verrucosus cutis.
21	L. D. M.			9 mo.	9 mo.	++		Ulcus durum, roseola and mucous plaques.
22		S. M.				O++O	OO	Lichen chronicus circumscriptus.
23	Mrs. L. K. B.			5 yr?	None	++		Recurrent papular syphilide.
24		A. B.				OOO		Allopecia areata.
25	W. P. M.			16 yr.	6 mo.	+	OO	Serpiginous syphilide of neck.
26	H. S. W.			16 mo.	16 mo.	++	OO	Ulcus durum, mucous plaques.
27	C. L. G.			1 wk.	None	++	O	Ulcus durum and roseola.
28		N. E.		4 wk.		++	OO+	Ulcus molle.
29	J. D.			1 yr.	6 mo.	++	O	Recurrent papular syphilide.
30	S. G.			7 mo.	4 mo.	++	O	Ulcus durum and roseola.
31	B. L. M.			14 mo.	14 mo.	+		Ulcus durum and roseola.
32	F. B.			2 yr?	3 mo.	OO		Ulcus durum and mucous plaques.
33	F. D.			2 yr?	6 mo.	O+++	++	Palmar syphilide and mucus plaques.
34	A. F.			1 yr.	1 yr.	+++		Ulcus durum of tongue and roseola.
35	Miss E. L.			3 mo.	None	++		Palmar syphilide and mucus plaques.
36	S. K.			18 mo.	18 mo.	+++	++	Ulcus durum and roseola.
37	J. R.			6 yr.	6 yr.	+++		Ulcus durum and roseola.
38	M. L.			2½ yr.	2½ yr.	++	+	Ulcus durum and roseola.
39	W.			18 mo.	18 mo.	++		Ulcus durum.
40		M. N.		3 yr.		++		Ulcus Durum (?) 3 yrs. ago; double non-suppurating bubo.
41		M. F.		9 mo.	9 mo.	++		Slight adenopathy; mucus membranes normal.
42	S. J.			2 yr.	2 yr.	++		Ulcus durum and roseola.
43	H. B.			8 yr.	8 yr.	++	+	Ulcus durum and roseola.
44	C. S.			9 yr.	9 yr.	+++	+	Ulcus durum and roseola.
45		A. J.				+OO		Normal control.
46	R. E.			5 mo.	None	+	+	Ulcus durum and miliary syphilide.
47		L. M.				++	+	Ulcus molle.
48		A.H.A.				++	+	
49	R. W. N.			11 yr.	11 yr.	++	+	Ulcus durum and roseola.
50	L. B.			2 yr.		+	+	Ulcus durum and roseola.
51	R. R. McM.			2 yr.	2 yr.	O+	+	Ulcus durum; leucoplakia and enlarged glands.
52	M. C. A.			28 yr.	2 yr.	++	+	Ulcus durum 28 yrs. ago. Cavernositis present.

c. c. of serum. These alterations make some difference with the ease and exactness with which the supernatant liquid can be poured away from the precipitated and centrifuged globulins, and upon this important feature largely depends the

may overcome these difficulties, and insure us a trustworthy and acceptable method. Personally, I have found the present method unreliable to the extent that readings were not only difficult from their purely relative differential character, but

that often under apparently the same conditions, a case would be negative one day and markedly positive the next.

THE "SYPHILOMETER."

A large wholesale drug house has recently sent broadcast some small tubes, pipettes, a small vial of one per cent taurin solution with some descriptive matter, in a package labeled "Syphilometer," inculcating the idea that this equipment and simple method of examination, every physician has at his command a satisfactory and reliable method of examination. The test is based on the researches of Varney, who after the method of Klausner, substituted the more staple one per cent taurin solution for lecithin, or sodium glycocholate and taurocholate. I have found the method to possess some serious objections and shortcomings. The method of securing the blood and obtaining the serum does not appeal to me to be satisfactory in a test of this character. Moreover the amount is too inadequate for careful and intelligent reading. In this examination, as in all examinations of this character, the blood, if possible, should be obtained in a sterile syringe armed with a sterilized platinum needle, by venous aspirations, and collected in a sterile tube, under proper aseptic precautions. From 0.5 to 2.0 of clear, blood-free serum should be at the command of the examiner. When I first employed the Varney test, I used the regulation two drops of serum, diluted with fourteen drops of one per cent taurin solution, and as near as the tiny test tubes would permit me to judge, every test regardless of its clinical nature (see table) was negative, according to Varney's description. I requested the drug company to send me a larger amount of taurin solution for the purpose of carrying on tests on a larger scale, and they graciously complied by sending me a half pound of the solution. I then began making tests with 0.5 to 1.0 of the serum, diluted seven times with the taurin solution, and every test became positive in character. The sides and bottom of the centrifuge tubes, which were used for the purpose and under sterile precautions, became heavily coated with a granular ("semicrystalline") precipitate, which failed to re-dissolve on slight motion of the tube. The negative and positive cases reacted uniformly alike to this test, and there was no distinction in the results in the fourteen cases examined, of which four were negative and ten were positive in clinical character. The method in my hands has proven to be absolutely unreliable and untrustworthy.

In presenting this paper it is not my intention to cast any reflection upon the great scientific

value and importance which has already been established or is destined to be attained by these important discoveries. I am frank to acknowledge that I sincerely believe the true cause of syphilis to be the spirochete pallida, and that its discovery by Schaudinn, is a matter of the greatest scientific value and importance. I do maintain, however, that there is great danger in attributing to the presence of the spirochete pallida and to the serum diagnosis too much diagnostic importance, which in a disease like syphilis, is exceedingly dangerous and fallacious in character. Unfortunately the spirochete is most easily found in the earlier lesions, when the clinical diagnosis can be more readily made and confirmed without a bacteriological investigation. The serum tests fortunately possess a higher percentage of successful relations in the later stages, at a time when doubtful cases no longer promise clinical confirmation. I firmly believe that for the present in syphilis, as in most other affections, the clinical manifestations take strong precedence over bacteriological, chemical and pathological considerations.

The latter with their great scientific interest and confirmative importance, should not be accredited undue and possibly doubtful diagnostic value until the clinical resources have received their full degree of circumspect and scrupulous investigation.

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Arsenic is a drug of undoubted value in a limited number of skin diseases, but often fails to realize one's expectations. May accomplish some incidental good when indicated by the condition of the nervous system.

Arsenic is used excessively and indiscriminately by the general practitioner, while the specialist is inclined to withhold it unless specially indicated.

When used in too large doses or over protracted periods, it may produce structural changes in the nerves.

Not only are inflammatory dermatoses commonly aggravated by its use, but a great variety of skin disturbances may result from toxic doses—pigmentation, hyperkeratosis and even cancer.

In view of these possible dangers much care should be exercised in prescribing arsenic. Not at all unless there is some clear indication, and particularly should patients be instructed not to continue its use upon their own judgment.—*Okl. State Med. Jour.*

In tubercular joint affections, a crippling operation may often be obviated by injecting from one drachm to two ounces of a ten to twenty per cent solution of sterilized iodoform in olive oil or glycerine. To avoid toxic effects from the iodoform, it should be used in drachm doses, at first every week and gradually increased up to as much as two ounces in certain cases. Keep careful record of the urine during injections for parenchymatous nephritis may supervene. This treatment should be used in conjunction with rest, extension and forced feeding.—*Old Dominion Journal of Medicine and Surgery.*

THE BINDING OF THE COMPLEMENT IN
THE DIAGNOSIS AND THERAPY
OF SYPHILIS, WITH RE-
PORT OF CASES.

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The discovery of the binding of the complement in 1901 by Bordet and Gengou¹, when they found that if a given antigen and amboceptor were added to fresh guinea pig serum they would combine and take up the complement, made it possible for Wasserman in his experiments to show that the blood serum of syphilitic patients contained amboceptors which would combine with the antigen and take up the complement.

Wasserman first infected monkeys with spirochete pallida and found that these syphilitic animals had amboceptors in their blood. He then injected monkeys with an extract made from the liver of a five-months-old syphilitic foetus and found syphilitic amboceptors in their blood. Reasoning upon the theory that a substance which, when introduced into the body, would produce amboceptors against that disease, was an antigen, he called this extract an antigen. The object of the Wasserman reaction is to show whether or not a given serum contains amboceptors against syphilis. This is shown by the binding of the complement. It is a well known fact that neither an antigen nor an amboceptor when taken alone have very little if any affinity for the complement, but when taken together they have a striking affinity.

TO TEST A SERUM FOR AMBOCEPTOR.

In a test tube we combine small amounts of antigen, amboceptor (patient's serum) and complement and place in incubator at 37.5° C. for one hour. At the end of the hour, if the suspected serum contains amboceptors, the complement will be taken up and bound. If not, it is free. To determine whether or not the complement has been bound, an antigen and amboceptor of definite known strength—i. e., sheep's blood corpuscles and immunized rabbit's serum (see

below)—are then added, and the tube is again placed in the incubator at 37.5° C. for one hour.

At the end of the second hour, if the complement has been bound by the first antigen and amboceptor, the fluid remains turbid; hemolysis does not occur. If, on the other hand, the complement has not been bound—in other words, if the patient's serum contains no amboceptors—the complement will be free to combine with the sheep's blood corpuscles and rabbit's serum, and it will clear up; hemolysis will take place.

Owing to the fact that a weak solution of lecithin—extracts made from the heart and other organs of animals known to be not syphilitic—have given the reaction and are used in this reaction by some, Citron² has advised using the term "reagins" instead of antigen. I have used lecithin .2% solution, but have not found it satisfactory, inasmuch as it has given positive reactions in some cases, under some conditions, known to be not syphilitic. An extract made from the liver of a five-months foetus known by pathological changes, especially those changes in the long bones, to be syphilitic should be used. It is prepared in the following manner. The liver is finely chopped and weighed after all connective tissue has been removed. To this is added a volume of .85% saline solution equal to four times the weight of the liver, to which enough phenol (.5%) is added for a preservative. This is placed in a dark bottle, attached to a shaking apparatus and shaken for twenty-four hours, after which it is centrifuged and the clear fluid decanted. The antigen is tested for its strength, is placed in a dark bottle and should be kept on ice. An alcoholic extract may be used. It is prepared in very much the same way as the watery extract, except that it is filtered and it is not necessary to keep it on ice. The watery extract has, in my experience, given more universal satisfaction. The normal extract used as a control is prepared in the same manner as the positive extract, excepting that the liver of a non-syphilitic foetus is used.

TO TEST THE EXTRACT.

Before its use and from time to time the extract must be tested, first as to whether it is positive or not and, second, as to its strength.

First.—In this test we need serum from a known syphilitic patient and use it as follows:

Tubes	Extract	Serum	Complement	Hemolysin	Blood
1	.2 cc	.2 cc	.1 cc	1. cc	1. cc
2		.2 cc	.1 cc	1. cc	1. cc
3	.4 cc		.1 cc	1. cc	1. cc
4			.1 cc	1. cc	1. cc
5				1. cc	1. cc

Tube 1 must show turbidity; while tubes 2, 3 and 4 must clear up. If tube 3 is turbid, it indicates that the extract is too strong.

Second.—To test the strength of the extract, it is used alone without serum, as follows:

Tubes	Extract	Complement	Hemolysin	Blood
1	1. cc	.1 cc	1. cc	1. cc
2	.9 cc	.1 cc	1. cc	1. cc
3	.8 cc	.1 cc	1. cc	1. cc
4	.7 cc	.1 cc	1. cc	1. cc
5	.6 cc	.1 cc	1. cc	1. cc
6	.5 cc	.1 cc	1. cc	1. cc
7	.4 cc	.1 cc	1. cc	1. cc
8	.3 cc	.1 cc	1. cc	1. cc
9	.2 cc	.1 cc	1. cc	1. cc
10	.1 cc	.1 cc	1. cc	1. cc

The extract is good and of proper strength if tubes 3, 4 and 5 show "hemmung," while 6, 7, 8, 9 and 10 show "lösung." Tubes 1 and 2 may or may not clear up, depending upon the amount of blood corpuscles in the extract—i. e., while the extract alone would in this strength combine and take up the complement there may be enough complement in the extract to combine the sheep's blood corpuscles and rabbit's serum; hence hemolysis.

PATIENT'S SERUM TO BE TESTED FOR AMBOCEPTORS.

From 5 to 10 cc. of blood is drawn from the patient, either by the introduction of a needle into one of the large veins on the forearm or by cupping the back after the method of Bier, following the use of a spring lancet. This latter method is practicable when dealing with nervous patients. If wanted for immediate use, the blood may be defibrinated and centrifuged. If not, it may be placed in a sterile tube and in twelve hours the serum will be separated. The serum must be inactivated—i. e., the complement destroyed by heating to 56° C. in water bath for thirty minutes. It is then ready for use. From .5 to .7 cc. of serum are required for each test. (See protocol.)

THE COMPLEMENT.

For the complement we use the fresh, active

serum of a guinea pig. This is best obtained by cutting the carotid artery, collecting the blood in a sterile tube, and should be centrifuged and used at once, although it may keep from twenty-four to forty-eight hours if placed on ice. Usually by

using 1 cc. of a 10% solution we have no difficulty with the complement when it is fresh, but there are times when we fail to get hemolysis, and after testing other reagents we find the complement at fault. It therefore may be tested and its strength definitely determined.

HEMOLYSIN.

By injecting, preferably intravenously, a rabbit with a small amount (1 cc.) of washed sheep's blood corpuscles well diluted in salt solution, making three injections at intervals of five days each, we immunize the rabbit against sheep's blood corpuscles. Great care should be taken to diminish the amount of corpuscles injected on the second and third injections, for in this instance we have a striking example of what von Pirquet has termed "Allergie," or immunity plus anaphylaxis, and it is not an uncommon thing to find that after the third injection the animal has been killed. Five days after the last injection the rabbit is killed by bleeding and the serum carefully inactivated by heating in water bath at 56° C. for thirty minutes, after which it is tested to ascertain the strength of the hemolysin.

TO DETERMINE THE STRENGTH OF THE HEMOLYSIN.

Solution "A" equals .1cc. rabbit's serum to 10 cc. salt solution.

TO DETERMINE THE COMPLEMENT

Tube	Hemolysin	Blood Corpuscles	Complement
1	1. cc	1. cc	.2 cc
2	1. cc	1. cc	.15 cc
3	1. cc	1. cc	.1 cc
4	1. cc	1. cc	.08 cc
5	1. cc	1. cc	.06 cc
6	1. cc	1. cc	.04 cc
7	1. cc	1. cc	.02 cc
8	1. cc	1. cc	.01 cc
9	1. cc	1. cc	.005cc

Solution "B" equals 1 cc. of solution "A" to 6 cc. in salt solution.

Solution "C" equals 1 cc. of solution "A" to 8 cc. in salt solution.

Solution "D" equals 1 cc. of solution "A" to 15 cc. in salt solution.

puscles), known to us because we have injected it into the rabbit to produce amboceptors. We have (B) the patient's serum to be tested. Does it contain amboceptors against syphilis or not? If so, the complement will be bound and there will be "hemmung;" the solution will remain

Dilution	Hemolysin	Complement	Blood
1-50	2. Sol. A	.1 cc	1. cc
1-100	1. Sol. A	.1 cc	1. cc
1-200	5. Sol. A	.1 cc	1. cc
1-400	25. Sol. A	.1 cc	1. cc
1-600	1. Sol. B	.1 cc	1. cc
1-800	1. Sol. C	.1 cc	1. cc
1-1000	.1 Sol. A	.1 cc	1. cc
1-5000	.1 Sol. D	.1 cc	1. cc
Control		.1 cc	1. cc

Add enough salt solution to bring all to an equal volume, 5 cc., and place in incubator for one hour. Use twice the strength required to hemolyze one (1) cc. of sheep's blood corpuscles diluted 1-20. For instance, if 1 to 1500 would hemolyze, 1 to 750 would be the proper dilution.

SHEEP'S BLOOD.

The sheep's blood is defibrinated either by whipping or by placing in flask along with small glass marbles and shaking. It is then placed on ice, where it will keep for about a week. As needed, the corpuscles are washed by placing in centrifuge tube, adding three parts saline solution and shaking, after which they are centrifuged, the corpuscles falling to the bottom. The clear fluid is then decanted, and this procedure is repeated for three or four times until the corpuscles are thoroughly washed. The corpuscles are then diluted 1 to 20 in saline solution and are ready for use.

We now have (A) a positive extract the strength of which is known, (A') a normal extract known to be non-syphilitic, (C) complement which has been tested and is known to be good, (D) hemolysin or amboceptors in rabbit's serum, the strength of which has been determined, and (E) antigen (sheep's blood cor-

turbid. If not, there will be "lösung;" the solution will become clear.

In order that there may be no mistake in the reaction, there are certain controls that must be carried out in every test, and the results must be uniform.

First.—In making the reaction in a suspected case, we must always have for comparison the serum from both (B) a positive syphilitic patient and (B') a patient known to be not syphilitic.

Second.—There must be a tube in which serum alone (see protocol, tube 3) is used, and if this tube binds the complement the reaction cannot be considered as positive.

Third.—In tube 4, in which normal extract is used in combination with the serum, there must be uniform hemolysis.

Fourth.—Tube 5, which contains neither extract nor serum, should hemolyze in fifteen minutes. If tube fails to clear up, the system is wrong and all must be discarded.

Fifth.—Tube 6, positive extract alone (antigen), should clear up in a few minutes.

Sixth.—Tube 7, normal extract alone, should hemolyze.

Seventh.—Tube 8, blood and hemolysin without complement, remains turbid. If this tube should hemolyze, there has either been a mistake in in-

activating the hemolysin—i. e., leaving enough complement therein to complete hemolysis—or possibly plain water has been used in the place of salt solution.

In the following protocol the tubes are numbered, while the solutions are designated by letters.

S equals sterile salt solution, .85%.

A equals positive syphilitic extract (antigen).

A' equals normal extract.

B equals positive serum (serum from patient known to be syphilitic).

B' equals negative serum (serum from patient known to be not syphilitic).

B'' equals suspect serum (serum from suspected patient).

C equals complement (fresh guinea pig serum).

D equals hemolysin (inactivated rabbit serum).

E equals sheep's blood corpuscles (5% solution).

The hemolysin (D) is diluted to the strength required and is added to an equal part of 5% washed sheep's blood corpuscles (E) and are used in the protocol as the D-E mixture.

Add S, A, A', B, B', B'' and C, as per protocol, and place in incubator at 98.6 F. for one (1) hour. Then test system (tube 5) and if hemolysis takes place, proceed by adding 2 c. c of the D-E mixture, and again place in incubator for an hour, after which there will be hemolysis in every

tube where the complement has not already been taken up and bound during the first hour, as in tubes 1 and 2 in the A, B and C combination.

It is necessary to bring all tubes to an equal volume with salt solution and it is optional with the operator whether he adds sufficient salt solution at first or after the addition of each reagent. It is essential after the addition of each reagent to shake each tube thoroughly, in fact, the one by-word of the laboratory must "immer schüttel."

In interpreting the results of the reaction, Citron has devised the following method:

When first tube is very turbid, with considerable turbidity of second tube, he marks four crosses positive + + + +.

Marked turbidity of first tube and small amount of turbidity in second tube, he marks three crosses positive + + +.

Fairly marked turbidity of the first tube, with only a trace of turbidity in the second tube, he marks two crosses positive + +.

Slight turbidity in first tube and no turbidity in the second tube, he marks one cross positive +.

No turbidity in any of the tubes (complete hemolysis), he marks — (negative).

At times there will be the very slightest cloudiness in tube 1, not extensive enough to call it a positive case, and yet we would not be justified in saying it is negative. We therefore mark it doubtful, indicated by the plus-minus sign (\pm)

PROTOCOL.

	Tube	S	A	A'	B	B'	B''	C	Incubator at 37.5° C. for one hour	D-E
Positive case.....	1	1.6	0.2		0.2			1.0		2.0
	2	1.8	0.1		0.1			1.0		2.0
	3	1.8			0.2			1.0		2.0
	4	1.6		0.2	0.2			1.0		2.0
Negative case.....	1	1.6	0.2			0.2		1.0		2.0
	2	1.8	0.1			0.1		1.0		2.0
	3	1.8				0.2		1.0		2.0
	4	1.6		0.2		0.2		1.0		2.0
Suspected case.....	1	1.6	0.2				0.2	1.0		2.0
	2	1.8	0.1				0.1	1.0		2.0
	3	1.8					0.2	1.0		2.0
	4	1.6		0.2			0.2	1.0		2.0
System	5	2.0						1.0		2.0
Antigen	6	1.8	0.2					1.0		2.0
Normal extract.....	7	1.8		0.2				1.0		2.0
Blood alone.....	8	3.0								2.0

and secure more serum for a second examination. The number of crosses indicate therefore the number of amboceptors in the patient's serum, or the extent of the infection.

Perhaps no other diagnostic method has excited such universal discussion and certainly none has been more valuable than the discovery of the binding of the complement (Komplement Bindung) in the diagnosis of syphilis. Wassermann and Nesser (3) in 1906 first found amboceptors present in nineteen per cent of all syphilitic patients and then published it. Wassermann and Plaut (4) then found that the complement was bound by spinal fluid in eighty per cent of all parietic patients.

While the work of Wasserman gave us this reaction as a diagnostic agent, it remained for Julius Citron (2) now of the Second Medical Clinic, Charite Hospital, Berlin, to place it upon a practical working basis, and show us that the reaction was present in all cases who had been infected with syphilis and had not been cured by treatment. Citron demonstrated its value, not only as a diagnostic aid, but as a prognostic and therapeutic guide.

Formerly we could say to the patient who gave us a history of having had a suspicious lesion but who had at once started anti-syphilitic treatment and who had at intervals for years taken mercury, had developed a neurosis and presented symptoms which may or may not be due to syphilis, we think you are or are not syphilitic. Now, we can say, we know your symptoms are due or are not due to syphilis. There was a time when we would say to the young man who had become syphilized and who had faithfully pursued a course of treatment, we think it will be safe for you to marry. Now, we can say we know that there are no syphilitic antibodies in our system. As a guide in the therapy of syphilis, we can by making the Wassermann test from time to time, now know if our patient is getting enough mercury. Citron (5) after his large experience in over four thousand reactions, has given us two rules.

First: "The longer the syphilitic virus has been in the system and the more frequent there occurred relapses, the stronger is the antibody in the serum."

Second: After infection, the sooner anti-syphilitic treatment is begun, the longer it is continued and the more frequently it is repeated, the smaller is the amount of antibodies in the system."

Citron has also shown us that while mercury in any form is an antisyphilitic, that it is more efficacious in the form of an inunction. He finds

that after one course of injections, the reaction is present in 73 per cent, while after one course of inunctions, it is present in only 67 per cent.

Ludwig Pick, pathologist for Friedrichshain Hospital, Berlin, where they hold from five to twelve postmortems daily, says: "In examining the blood subjects, pathologically syphilitic, the Wassermann reaction is positive in every case. On the other hand, I have not seen a subject which did not show evidence of syphilis to give a positive reaction."

The Wassermann reaction is now a routine examination in all the large medical, nervous and skin clinics of Germany, and a specific element is found in many heretofore unsuspected cases and antisyphilitic treatment is instituted.

The following cases are mostly from wards 5-6, 7 and 8 of the Second Medical Clinic, Charite Hospital, Berlin, and a complete record is on file at that institution. The blood was brought to the laboratory and examined. The report of the examination was then sent back to the ward. At the time of making the reaction, we had no knowledge whatever of the history of the cases. Dr. Citron kindly permitted me to go to the wards, get the history, examine the patients and report the cases. A few of the cases are from my own private practice. The series of cases private practice of Julius Citron, have been heretofore unpublished, and I am indebted to him for the courtesies.

For convenience, I have divided the cases into four groups:

First: Cases giving a history of syphilis and clinically syphilitic.

Second: Cases giving a history of syphilis, but clinically something else.

Third: Cases denying syphilis, but clinically syphilitic.

Fourth: Cases denying syphilis and clinically something else.

REPORT OF CASES.

First: Cases which gave a history of syphilis and were syphilitic clinically.

(1) W.—Male; 36; married; no children. Wife is healthy and has had no abortions. Was syphilized in 1890. Married in 1894. Began as tabes in 1902. Had one cure for three weeks in 1907. Clinical diagnosis, tabes dorsalis; serum ++ +.

(2) D.—Male; 34; single. Became syphilitic twelve years ago. No treatment. For two years has had pains in legs. Now girdle sensation. Romberg's sign present. Right pupil does not react to light, but both react to accommodation. Clinical diagnosis, tabes dorsalis; serum ++ + +; spinal fluid —.

(3) S.—Male; 43; laborer. Married in 1899. One healthy child. Wife healthy and has had no

abortions. Contracted syphilis in June, 1908. Had one course of injections. Has marked aphasia. Clinical diagnosis, cerebral lues; serum +++++; spinal fluid +.

(4) J.—Male; 38; tailor. Married in 1894. Wife healthy. Two children in good health. Drinks a moderate amount of beer. In 1892 became syphilized. Had two courses of inunctions at that time. Heart and lungs show nothing especial. Abdomen not distended. Liver border is palpable under the ribs and by percussion one fingerbreadth below the ribs. The spleen is enlarged. Liver and spleen tender and painful. Urine contains bilirubin, no albumin and no casts. Nervous system negative. Under K. I. patient is better. No pain. No bile in urine. Formerly he was jaundiced, but not so now. Clinical diagnosis, syphilitic hepatitis; serum +++++.

(5) R.—Male; 37; tubercular. Primary sore one year ago. Has mucous patches. Clinical diagnosis, pulmonary tuberculosis and syphilis; serum +++++.

Second: Cases giving a history of syphilis, but clinically something else.

(6) S.—Male; 58; beer handler; single. Contracted syphilis in 1874. The only treatment he had was K. I. at times. Clinical diagnosis, gout; serum +++++.

(7) L.—Male; 41; railway conductor; married; no children. History of infection in 1889. Six months treatment (internal medication). History of epigastric pain after eating; hematemesis. Clinical diagnosis, gastric ulcer; serum —.

Third: Cases denying syphilis, but clinically syphilitic.

(8) P.—Female; 58. Denies syphilis. Married 22 years. One living child. Two abortions. For six years has had uncertain gait. Pupils fixed. On extreme excursion there is nystagmus. Spastic gait. Ataxic in upper extremities. Clinical diagnosis, syphilis; serum +++++.

(9) S.—Female; 33; married; no children. Denies syphilis. No history of rheumatism. Heart enlarged to the left and downward. Apex strong and heaving. Systolic and diastolic murmurs heard over entire precordium. Diastolic murmur heard best over junction of left fourth costal cartilage with sternum. Liver and spleen negative. Clinical diagnosis, syphilitic aortic insufficiency; serum +++++.

Fourth: Cases denying syphilis and clinically something else.

(10) K.—Female; 33; married; housewife. Family history negative. No children. For past year has been sick. Pain in chest and back. Has little appetite; great thirst. Frequent vomiting, which comes on from time to time and lasts for seven days. No abortion. Denies infection. No lancinating pain. Heart and lungs normal. Pupils equal and react normally. Patella reflexes variable; at times normal and at other times weak. No Romberg. Clinical diagnosis, periodic vomiting serum +++++.

(11) S.—Female; 19; single. Denies infection. Gives a history of having had pain in back. The medicine which she took for the relief of pain was followed by an eruption. Clinical diagnosis, medicinal rash; serum +++++.

(12) S.—Male; 17; single; house servant. History of rheumatism. Negates syphilis. No evi-

dence of syphilis. Clinical diagnosis, aortic insufficiency; serum —.

(13) B.—Male; 39; married in 1896. Denies syphilis. Clinical diagnosis, multiple sclerosis; serum +++++.

After specific treatment, symptoms subsided.

(14) F.—Male; 56; married. No children. Wife is healthy and has had no abortions. Denies infection. Tumor in mediastinum, the nature of which is not clear. Pulsus differens. Serum —.

(15) W.—Male; 14. Parents and two brothers healthy. Three years ago had fever. Since then has had weakness in arms and legs. Patient cannot walk well. Lungs show nothing especial. Heart dullness increased to the left. Right pupil wider than the left. Both react normally. Upon extreme excursion there is slight nystagmus. Abdominal reflexes fail on the right side. Normal on the left. Patella reflexes increased. Sensibility, both skin and deep, disturbed. Upon closing eyes, patient falls to the right. The gait is spastic. Clinical diagnosis, progressive paralysis; serum +.

(16) P.—Female; 24; single. Sixteen years ago had articular rheumatism. Frequent attacks since. Last attack in March, 1908. For three weeks has had shortness of breath. Heart is enlarged to the left. Blood pressure 113-62. Presystolic murmur over apex. Diastolic murmur over the aortic area. Clinical diagnosis, aortic insufficiency and mitral stenosis; serum —.

(17) L.—Female; 74; married. No history of infection. Heart enlarged both to the right and left. X-ray shows an enlarged aorta. Not certain whether an aneurysm exists or not. Pupils normal. Patella reflexes weak. Clinical diagnosis, aortic aneurysm (?); serum —.

(18) P.—Female; 55; married. Has had no abortions. No history of infection. Pupils normal. Heart enlarged to the left. Second aortic tone accentuated. Clinical diagnosis, multiple cerebral hemorrhage; serum —.

(19) W.—Female; 43; married. No children. Denies infection. Complains of pain in inguinal region. Reflexes are diminished. Pupils are tardy. Indescribable pains coming here and there. Clinical diagnosis, hysteria; serum +++++.

(20) B.—Male; 56. Denies syphilis. Clinical diagnosis, diabetes insipidus; serum —.

(21) M.—Female; 44; married; no children. Denies infection. Has had pain in the chest for six weeks, followed by exanthemata. Now has physical signs of a well defined consolidation of right middle lobe. Clinical diagnosis, lobar pneumonia; serum +++++.

(22) A.—Male; 56. Family and personal history not known. No history of syphilis. Clinical diagnosis, Adams-Stokes disease; serum —.

(23) K.—Female; 22. Family and personal history not known. No history of syphilis. Clinical diagnosis, pleuritis; serum —.

(24) S.—Male; 35; married; no children. No history of rheumatism. Denies syphilis. Heart enlarged to the left. Diastolic murmur heard at second space to the right and best at the junction of the fourth left costal cartilage with the sternum. Clinical diagnosis, aortic insufficiency; serum +++++.

(25) S.—Male; 35; laborer; married. Denies infection. Wife has had no children and no abortions. For three years patient has had fre-

quent attacks of severe pain in the right side of the head. For three months has had periodic pains in the epigastric region. Anesthesia and analgesia in lower extremities. Clinical diagnosis, migraine; serum +++.

(26) H.—Male; 41; laborer. No syphilis. Married since 1893. Wife has one healthy child and no abortions. In 1902 had an accident; right tibia broken. In 1904 a second accident; fell six feet on head. Since then has had severe headache at intervals. In 1906 had otitis media. For past year has had dizziness and sleeplessness and severe headaches. Examination shows nothing especial, excepting in spinal fluid, which shows increased leukocytes and high pressure. Clinical diagnosis, chronic meningitis; serum —.

(27) H.—Male; 19. No history of syphilis. Clinical diagnosis acute articular rheumatism; serum —.

REMARKS ON CASES.

It will be noticed that in case (2) the spinal fluid gave a negative reaction, while the spinal fluid in case (3) gave a positive reaction, and yet the serum in each case gave a very positive reaction.

Case (4) is a very important one in as much as it shows that a patient may become syphilized and in two years get married, have a healthy wife, be the father of two healthy children, and for a period as long as sixteen years be in apparent good health and then develop visceral syphilis, as shown by the Wassermann reaction.

In case (6) after the serum was found positive,

Infection	Cures	Symptoms	Reaction
(28) 4 years	One	Without	+
(29) Fresh	None	Primary	—
(30) Fresh	None	Primary and first rash	++++
(31) 20 years	4 at that time; none since	No symptoms	—
(32) 2 years	Four	Mucous patches	++
(33) 18 months	Two	Rash, mucous patches and enlarged glands	++++
(34) 12 years	3 series of inunctions, 2 series of inunctions (last series 1 year ago)	No symptoms	—
(35) 3 years	3 series of inunctions (last 1 year ago)	No symptoms	—
(36) 1 year	2 series of inunctions	No symptoms	++++
(37) 3 years	Six	No symptoms	Doubtful
(38) 3 years	Six	No symptoms	Doubtful
(39) 3 years	Two	No symptoms	+++
(40) 3 years	None	No symptoms	—
(41) 15 years	One	No symptoms	++++
(42) 8 years	Five	No symptoms	++++
(43) 7 years	Five	No symptoms	++
(44) Fresh	None	Primary	++
(45) Soft chancre	None	None	—
(46) 12 years	One	No symptoms	++++
(47) Fresh	Seven	Primary	+++
(48) 16 years	One	No symptoms	+++
(49) 6 years	8 cures, last one 9 months ago	None	—
(50) 4½ years	5 cures, last one 2 months ago	No symptoms	Doubtful

Series of cases showing the influence of treatment upon the reaction:

Infection	Cures	Symptoms	Reaction	Treatment	Reaction
(51) 16 years	Five	Leukoplakia	+++	40 inunctions	Doubtful
(52) 8 years	Three and a half	None	++	40 inunctions	+
(53) Fresh	None	Primary	++	15 inunctions	+
(54) 3 years	Six	Tertian rash	++++	15 during ++. After	—
(55) 1 year	Three	None	+++	30 inunctions	+
(56) 7 years	Not known	None	++++	30 inunctions	++
(57) None	None	None	+++	Treated internally	—
(58) 7 years	Three	None	+++	15 injections	++

Percentage of cases responding to the reaction, according to Julius Citron:

Primary	90%
Secondary	98%
Secondary, without symptoms.....	80%
After 4 years, with symptoms.....	91%
After 4 years, without symptoms...	57%
Influence of treatment—	
Not treated all stages.....	81%
One series of injections.....	73%
One series of inunctions.....	67%
More than one series of inunctions.	59%

a more careful examination of the patient shows the right eye to be tardy.

In case (10) after the examination of the serum, a diagnosis of gastric crisis was made.

In case (11) a diagnosis of syphilis was made after a report of the serum reaction.

An autopsy in case (14) showed fibrous pericarditis.

In case (19) after being informed that we knew she had syphilis, the patient confessed to

having been infected eighteen years ago and had at that time taken treatment for six weeks.

In case (21) it proved to be a syphilitic eruption.

In case (40) the patient had had a suspicious sore, had never developed secondary symptoms and he was not syphilitic.

In case (42) the patient developed mucous patches in three weeks after the reaction was made. He was at once put upon injections, after which a second examination was made, which was "Doubtful."

In case (56) which gave a two-cross positive reaction after 30 injections, 15 more injections were given and then the reaction was negative.

Case (57) was a wife who gave no history of infection but whose husband has progressive paralysis.

In case (58) the treatment had little, if any, influence upon the reaction, and is an exceptional one.

It is to be noticed that in cases 9, 12, 16 and 24 that there is an aortic insufficiency. Cases 12 and 16 gave a history of rheumatism and the reaction was negative in both cases, while in cases 9 and 24 there was no history of rheumatism and the serum gave a positive reaction in both instances.

In a series of over one hundred cases, Citron has shown that more than ninety per cent of cases of aortic insufficiency, who do not give a history of rheumatism, are syphilitic.

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Chairman Hoover: The paper of Dr. McGavran is open for discussion by Ernest Scott, of Columbus. As Dr. Scott is not present the paper is open for general discussion. I think this is a subject to merit some discussion. It is evidently passing through the test of every other laboratory method. I do not know of a single sign which has stood the test of time in any field of medicine—that is, any sign that is absolutely reliable. I cannot recall any, at least. They are all significant, that is true. I think the author's paper merits considerable discussion on the part of those present.

W. L. Moss, Baltimore: Mr. Chairman and gentlemen, I thank you very much for the oppor-

tunity of discussing this paper. I think the importance of the Wasserman reaction is being generally recognized. Perhaps it has been received a little bit too enthusiastically by those who are engaged in pure laboratory work. The reaction apparently is not a definitely specific one. The discovery that other things besides the extract from a syphilitic liver are capable of binding the complement seems to detract from the specificity of the reaction. However, I think that does not detract from the value of the reaction as a diagnostic method. It has been our experience in a series of over 100 cases that cases clinically syphilitic gave the reaction in quite a large percentage of cases. I do not remember the exact figures. I think it is 75 to 90%. In the para-syphilides we have not obtained positive reactions in over 60% of the cases. A negative reaction cannot be taken as absolutely negative for syphilis. That is to say, there are a few cases which are positive cases of syphilis which do not give the reaction. On the other hand, I think that a positive reaction, provided the necessary controls which have been mentioned are carried out, is very positive evidence of the infection. The possibility of employing this same method in the diagnosis of other disease is a very interesting one. In Wassermann's laboratory they have undertaken to apply it to the diagnosis of tuberculosis. Although they have gotten some positive results, the method cannot be accepted yet as applicable to the diagnosis of tuberculosis.

We have gotten the impression in the cases which we have followed that the disappearance of the reaction cannot be taken as a positive indication of the cure of the disease. I think if you consider for a moment on what the reaction is based you will see that one is not quite justified in taking the disappearance of the reaction as an indication of a cure. The reaction is a test for the presence of the antibodies in the serum. One can conceive that the antigen, which, if not the virus of syphilis itself, is intimately associated with the virus, may be present still, although the antibodies have disappeared.

Chairman Hoover: Dr. Moss, will you give us some definite statement about the per cent. in syphilitic diseases? You say that 50% gives a positive reaction. What does that include?

Dr. Moss: That includes tabes and general paresis.

Chairman Hoover: What can you say of the per cent.? What per cent. are generally paresis, and what per cent. are tabes?

Dr. Moss: I cannot say.

Chairman Hoover: You say that 75% out of 100 cases of syphilis gave a positive reaction. In the 25% which you knew to be syphilis did any give it?

Dr. Moss: I think the figures are higher than that. I am a little afraid to attempt to give you figures. Dr. Clough, in the Johns Hopkins Hospital, has been carrying out the Wasserman test on all cases suspected of syphilis for the past year and will shortly publish his results. There is one more word I wish to say, and that is in regard to the various modifications. It is very desirable to place this test within the reach of the general practitioner, if possible. The technique is not a

difficult one, but it is a somewhat complicated one and is a somewhat long proceeding, and its simplification is highly desirable. Various modifications have been suggested. An attempt has been made to get rid of the necessity of using the sheep's corpuscles and rabbits' immune serum as an indicator. Noguchi has brought forward a modification of this reaction, and various other modifications have been brought forward. So far as I have seen these various modifications tested, it seems to me that none of them can take the place of the original method advised by Wasserman. I would like to emphasize the necessity of carrying out all the controls in this technique, which I believe is very valuable in diagnosis. It is to be hoped that we will eventually get a modification of it that will place it within the reach of more men.

Chairman Hoover: Dr. Moss, can you give us any experience, or do you know of any men that have employed Noguchi's modification, which seems to simplify the thing very much?

Dr. Moss: We were unsuccessful in applying Noguchi's modification. Dr. Clough got material from Noguchi himself and carried it out in parallel with a number of cases in which he was using the Wasserman method, and he was not able to get satisfactory results with Noguchi's modification.

It is, however, only fair to say that one should not condemn any method on a limited trial. Even with men who are skilled in laboratory technique it requires a good deal of practice to get results that are reliable and in which you can feel confidence. Possibly if we had given a more faithful trial to the Noguchi method we would have gotten good results. I do not mean to condemn it, but just to say that from the limited experience we have had with it we were not inclined to continue it.

Chairman Hoover: It does not seem to simplify the procedure very much.

Dr. Moss: It does not, if it does not give the results.

David I. Wolfstein, Cincinnati: I would like to ask the essayist or gentleman from Baltimore who has just spoken, on account of the difficulty in practicing the Wasserman method and the difficulty that surrounds some of the modifications, whether the gentlemen have had any experience with the method recently introduced by Nonne, viz, the precipitation of the globulines in the cerebro-spinal fluid by saturated solution of ammonium sulphate? I have had my attention called to that recently, but have had no personal experience with it; but those gentlemen got very good results in the differential diagnosis of syphilis or para-syphilitic conditions from non-syphilitic. It is a very simple method, which, if it can be shown to be valuable by extended observation, would be something that we can very profitably employ in the precipitation of albumin in the cerebro-spinal fluid with magnesia sulphate.

Chairman Hoover: If you can give us a short description of any known method, we will be obliged to you.

David I. Wolfstein, Cincinnati: I have had very little personal experience with it. I think that this gentleman might have had some prac-

tical experience. It depends upon the precipitation by ammonium sulphate in the cerebro-spinal fluid of albumin. If the precipitant produces a cloudiness in three minutes, Nonne calls this "Phase I" and considers this to be indicative of syphilitic or para-syphilitic states, though not absolutely so, as it occurs elsewhere. It has about the same value and occurs about as often as pleocytosis. Personally I have had little experience with it. I am asking merely for information. I think it will be quite valuable.

Dr. McGavran: I know nothing about the precipitation with magnesia sulphate. I will be quite glad to give the floor to Dr. Moss to answer that; then I will conclude.

Dr. Moss: I have not had any experience with the test under discussion.

THE BROWN-SÉQUARD SYNDROME AND ITS PRESENT STATUS.

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Cincinnati.

[Read before the Ohio State Medical Association.]

The clinical importance of this syndrome, as well as its fascination from the viewpoint of anatomy and physiology, are my excuses for bringing to your attention this subject.

This syndrome is of the greatest value in the diagnosis of partial cord involvement—i. e., where one-half of the cord is diseased or destroyed due to compression or trauma. It is one of the most valuable diagnostic factors in tumors of the cord and in certain cord diseases wherein the posterior cord grey and adjacent cord white is affected to a greater degree than the more anteriorly situated portions of the cord.

The original contribution of Brown-Séquard which established the symptomatic sign known as the Brown-Séquard¹ syndrome gave the following symptoms as consequent upon a hemileSION of the cord in the cervical region.

On the injured side—

I. Paralysis of voluntary motion; loss of muscle sense; paralysis of the blood vessels. Upon this side of the body and below the lesion there is a vaso-dilatation leading to increased temperature of the extremity.

II. Increased sensitiveness of the trunk and extremities below the lesion for tactile, pain, and heat and cold impressions—i. e., hyperesthesia, hyperalgesia and therm-hyperesthesia.

III. Symptoms of vaso-motor paralysis on the part of the face and eyes—i. e., increased skin warmth, occasional half-sided sweating, narrowed pupil, narrowed palpebral fissure, decreased tension of the eyeball.

The opposite side—

I. Anesthesia of the extremities and trunk for all qualities of sensation except muscle sense. In the course of subsequent time a more complete picture richer in details has been presented. As comprehensive as I know is that given by Kocher.²

EFFECT OF HEMILESION IN MAN.

(a) The injured side.

I. Motor paralysis. Onset with great intensity. As a rule diminishing in the course of days and weeks, except where destruction of anterior cornual cells in limited levels has occurred, terminating finally in motor weakness of the affected extremity.

II. Corresponding to the motor paralysis the development of inactivity atrophy of the paretic muscles. This atrophy is without Faradic loss, though often with weakened Faradic response, and without the reaction of degeneration.

III. Vaso-motor paralysis shown by increased warmth of the motorially weakened extremity. This disappears completely later.

IV. Hyperesthesia. (a) for tactile sense; (b) for pain sense; (c) and in many cases markedly for heat and cold. In cases where hemileision was suspected and hyperesthesia was missing, it is probable that on the injured side the division of the cord was incomplete.

Kocher quotes Beck's case (*loc. cit.*) where hyperaesthesia was missing. The autopsy showed in this case that the lateral tract was only partially divided whilst the anterior and posterior tracts were completely divided.

V. Abolition of Muscle Sense—In the process of betterment of the motor paralysis it has been usually noticed that an ataxic stage manifests itself, and very often the movements of the paralyzed leg even at a time when the paralysis has almost disappeared are quite ataxic in character. The connection between this ataxia and the abolition of the muscle sense is apparent.

VI. On the injured side the reflexes, especially the tendon reflexes are exaggerated. Berndt³ and Kocher (*loc. cit.*) both show cases in which the initial stage of abolished or weakened reflexes appeared, and was followed by the stage of increased reflexes later.

On the healthy side the reflexes remained unchanged. In the cervical region only we may finally have a same-sided paralysis of oculo-pupillar and vaso-constrictor sympathetic fibres. Also secretory fibres (sweat glands). It may be noted here therefore that in a hemileision of the cervical cord anywhere from the medulla to the first dorsal segment oculo-pupillar symptoms

may be present. It is now well established that there is no oculo-pupillar center in the cord, but that the sympathetic fibres run all the way down the cervical cord and pass out with the first dorsal root to the sympathetic. The symptoms of such sympathetic paralysis will be narrowing of the same-sided pupil, narrowing of the palpebral fissure (slight ptosis), sinking backwards, and loss of tension of the ball. Perhaps also on the side of the lesion a vaso-dilation of the vessels of the face.

Weiss⁴ found these symptoms present in a case of stab wound between the atlas and the skull. Berndt in a case of luxation of the atlas on the axis. So much for the symptoms on the side of the lesion.

(C) On the opposite side of the lesion the only paralysis is sensory, that is, to say anesthesia is present. This varies in intensity and quality probably corresponding to the extent of the injury. In some cases all forms of sensation are lost, but as a rule, tactile sensation is not lost, and only pain sense and temperature sense are abolished. It must not be supposed that where pain sense is lost temperature sense must also be lost, though they very often are simultaneously abolished.

I cannot help quoting here again from Kocher "that in hemileision in contrast to *total* lesion disturbances of the bladder and rectum, as well as priapism, usually are missing. If these disturbances are present it is only usually for a short time following the injury and we must then suspect that the lesion has also influenced the supposed healthy side and interfered with its function."

Too much caution cannot be observed in the interpretation of the symptoms of hemileision in man on account of the extreme rarity of strict hemileision, as but few autopsies have been made at a time when subsequent degenerative changes could be excluded. Furthermore, attention cannot be too frequently called to the constant series of changes set up in the cord following any injury to it. These changes to which reference will be made later have been especially well studied by Kahler, Schmaus and Enderlen, that is, at the point of lesion there occurs swelling of axis cylinders, filling up of the neuroglial interspaces destruction, and oftentimes slight hemorrhage, or even extensive hemorrhage.

A vast amount of animal experimentation has been undertaken to further confirm and elucidate this subject. All authorities, I think, are agreed that the results obtained by animal experimentation are not entirely in accord with the conditions found in man as the result of hemileision.

Furthermore, there is by no means complete agreement among the various experimenters themselves as to their results. However, this lack of uniformity in experimental findings need not surprise us, especially as Brown-Séquard himself in a later paper expressed views quite contrary to his original ones.

Now, as regards animal experimentation we may say in general that a loss of motility may be more or less easily recognized. The determination of *sensory loss* is a much more difficult matter. The determination of the loss of the *various qualities of sensation* is almost, if not quite, impossible. It must be remembered that the motor and sensory tracts in the lateral columns of the cord run very closely intermingled. It is these lateral areas that most concern us. In an experimental division of the lateral portion of the cord, therefore, deficiency phenomena will be both motor and sensory, not motor *or* sensory.

The absence of a reaction in an animal which could indicate loss of the pain sense or inability to distinguish heat from cold might be due to the loss of the motor as well as of the sensory component, in other words, if the leg of a dog be pinched or it be held in hot or cold water and the leg is not withdrawn, it may be due to a motor inability to withdraw the leg.

In experiments that I have made, often a very high degree of pinching or burning in the injured leg was endured but the animal either cried out, or turned its head, but made no effort at removal.

In a case upon which I recently operated, assisted by Dr. Baehr, I could not convince myself after the lapse of about two weeks, or at most three, that there was any difference between the two sides in the hind legs as regards tactile, pain, or temperature sense, yet the lesion made was a perfectly clean, half-sided lesion on the left side of the dorsal cord. Eight weeks after the experiment, the animal still could not use the left hind leg as well as the right, though it was able to run with great ease, and even jump. An interesting point in this case is that on the second day after operation when the animal had recovered from the shock, no *reflexes* could be obtained in either hind leg. The animal moved by pushing itself forward with the front legs and dragging the two hind legs. So complete was the loss of motion in the two hind extremities and so little reaction was obtained to sensory stimuli, even to a moderate Faradic current, that I feared that I had made a clumsy operation and either cut entirely across the cord, or that there was a compression from hemorrhage in addition to what I supposed was a hemileision.

Five or six days after the operation, however, the animal moved its right leg quite easily and there was a normal reflex. The left leg also moved a little with an increased reflex. The explanation of this initial loss of reflexes is to be sought in the fact that a hemileision was probably temporarily converted in the manner before stated by Schmaus⁵ and Enderlen⁶ into a total transverse lesion. I do not know whether in this initial stage there was any disturbance of the bladder or rectum. After the early reactionary products had subsided, it was quite clear that the lesion was distinctly a hemileision, and from a period of two weeks after the injury until eight weeks after the injury the most marked alterations were paresis of the left hind leg and a marked diminution of the muscle sense.

This manifested itself in this way. As is well known no animal will allow any of its members to be placed arbitrarily in a false position. If the right foot was hyperflexed, that is, turned in, not a second would elapse before the dog would correct it. The foot of the injured leg, however, could be turned in and would often remain in the false position for almost a minute before the dog would correct the same. Even the foreleg could be similarly misplaced, but to a much less degree.

Finally even when the dog was very expert in running around it often acted as though it were unconscious of the presense of the injured leg. The movements of this leg at times appeared ataxic, but I would be very loth to say what was motor weakness and what was ataxia.

I have made three other such experiments, but in none before had I so clearly a case of absolute strict hemileision.

In man where our questions can be answered if we have a sufficient amount of intelligence and concentration we can arrive at an accurate conclusion regarding the disturbance in the quality of sensation, but that this is not the case in animals is manifest.

Along this line also I would like to quote from Lewandowsky⁷: "There are only two or three reactions which animals give to indicate pain aside from the effect of blood pressure. These are the turning of the head toward the side touched, the jerking away of the limb which is being irritated which will, of course, be impossible where the appropriate motor fibres are destroyed, and barking, or attempting to bite. These are all very uncertain and capricious."

In the animals operated upon by me sometimes the slightest pinch would produce a cry or the turning of the head, and sometimes very extreme pinching would not do so.

Munk has mentioned the only other reaction

known as the contact reflex. Touching of the toes of the healthy animal is followed by an immediate slight flexion. This Munk claims is absent when contact with the higher centers is cut off. It is a very much contested point, however.

Let us briefly review the results of animal experiments with hemisection of the cord. Brown-Sequard's first conclusions were that the impressions for all qualities of sensation, with the exception of the muscle sense, were conducted upwards, cross-sided to the lesion. This view he later retracted.

Schiff⁸, who attached the greatest importance in the conduction of sensation to the central grey matter, found a diminution of sensation on both sides, but greater cross-sided than same-sided, and the diminution on the side of the lesion appeared at the end of an initial period of hyperesthesia.

Cross-sided tactile sensation was preserved whilst the pain sense was lost, or at least, very much diminished, while same-sided to the lesion pain sense was markedly increased with tactile sense diminished.

Turner⁹ in the ape found at first complete loss of all sensory qualities cross-sided to the lesion. This approximates more closely the Brown-Sequard's view.

Mott¹⁰ found, however, in the ape that tactile sensation and pressure sensation (finer localization) were most disturbed same-sided to the lesion, muscle, sense was lost exclusively on the side of the lesion, whilst pain and temperature sense were disturbed on both sides.

Lewandowsky (loc. cit) also Gotch, Horsly and Osawa¹¹ found in cats that all sensory qualities were more disturbed cross-sided than same-sided, and that tactile sense and muscle sense were very much disturbed on the same side, but that the pain sense and especially painful temperature stimuli were disturbed more or less on both sides. Lewandowsky (loc. cit) states that for the cat the pain sense is more disturbed on the same side than on the cross-side, and that also tactile sense and muscle sense were more disturbed on the same side. All unite in saying that a very high degree of restitution is possible. My views coincide very largely with those of Lewandowsky as far as animals are concerned.

I found the greatest disturbance and the most lasting disturbance was in the muscle sense of the same side; that pain sense and temperature sense were more disturbed on the side of the lesion than cross-sided, but that in my one animal after the lapse of eight weeks the most permanent disturbance of sensation was in the muscle sense.

Now as regards man, Petren¹² is practically the only one who defends the view that after hemileision all qualities of sensation are almost or completely abolished on the crossed side, and that tactile sense like temperature sense runs exclusively cross-sided. However, very few absolutely convincing post-mortem reports have been made that would speak for absolutely limited hemileisions. One thing is clear, however, that in man no such restitution of sensory loss occurs as in animals. The crossing over of the tracts which conduct pain sense and temperature sense is certainly more complete than in animals, and the effect of their disturbance more lasting.

Abolition of pain sense and temperature sense can be distinctly one-sided and has lasted as long as eight years in cases reported by Pick, Wagner and Stolper. (See 7.)

Lewandowsky (loc. cit) reports a case after a lesion in the cervical cord where after *five years* the patient absolutely felt no pain, no heat, no cold, but was conscious of the most delicate tactile impression. So complete a dissociation as this is not always seen, but as has been said more or less cross-sided loss of pain and temperature is very frequent.

As far as man is concerned we must believe that tactile sense has two pathways open to it, that is, in each half of the cord in the posterior column and in each half of the cord in the lateral tract of its own side, and also the opposite lateral tract. *Pain and temperature impressions, however, seem to traverse a pathway which crosses to the opposite side at or shortly above the level of the entering fibres.*

Let us briefly recall the established anatomical pathways for sensory conduction. All sensory impressions enter the cord by means of the posterior roots. The conduction of sensory impressions either immediately at or near the entrance level may go directly to a motor component without reaching any higher center. This is reflex conduction.

This reflex conduction is either manifested at the entrance level or at points higher up or lower down in the cord and on one or both sides, and it is not requisite that higher centers should be informed.

Upward conduction to the higher centers, however, is along three pathways. All posterior root fibres entering the cord from any given spinal ganglion end at first uncrossed. This ending may be in the posterior cord grey, in the cells of Stilling-Clarke, or along the direct reflex collateral path going to the anterior horn (above referred to), or finally the long fibres which immediately after entering the cord, turn

to run upward in the posterior columns to end in the nuclei of the posterior columns, same-sided.

This is equivalent to saying that the spinal ending of all primary sensory neurons is on the side of entry.

Path one is the reflex path mentioned before. This path is skin—spinal ganglion—posterior root—through the posterior horn to the anterior horn.

Path two. Fibres which pass through the posterior grey on the same side to end in connection with the cells of Stilling-Clarke at the junction of the posterior and anterior grey. From these cells spring secondary sensory neurons which may be divided topographically into two pathways.

The fibres of this first subdivision spring from these Clarke cells and pass to the dorsal portion of the cord at its extreme periphery, cross all the way up the cord, passing by means of the corpus restiforme to the cerebellum and ending almost exclusively in the vermis. This is the well-known *direct cerebellar tract* (Foville-Flechsig). This is an absolutely uncrossed same-sided tract.

The fibres constituting the other subdivision also arise from the Stilling-Clarke cells and pass out to the periphery of the cord, but are situated *more ventrally* than the tract first mentioned. This tract passes all the way up the cord through the medulla and pons to about the point of entrance of the fifth nerve. It then turns dorsally and curves backward (Caudad) around the superior peduncle to end also in the vermis. This is the *ventral cerebellar tract*; the tract of Gowers, or as it has also been called the antero-lateral ascending tract. Whilst all the fibres of the dorsal cerebellar tract go directly and uninterruptedly to the cerebellum, it is not proven that all the fibres in the ventral cerebellar tract run in uninterrupted continuity to the cerebellum. It is more than probable that a portion of these fibres end in the so-called lateral nucleus of the reticular formation of the medulla.

The formula for these tracts therefore would be skin, spinal ganglion, posterior root, posterior horn, Stilling-Clarke cells, and then either dorsal cerebellar tract or ventral cerebellar tract. Both cerebellar tracts are for the large part uncrossed tracts; that is to say, the secondary sensory neurons springing from the cells of Stilling-Clarke, run for the most part uncrossed, but a small number of fibres from these cells do cross over in the cord to the opposite side. It must be remembered, however, that although both of these cerebellar tracts end in the cerebellum

same-sided to the entry point, that they finally do pass from the cerebellum to the thalamus and cortex on the side opposite to their point of entry. The course from the cerebellum on is via the superior peduncle, then to the opposite thalamus, internal capsule, cortex cerebri.

Path three. A third great ascending path of posterior root fibres enters and crosses upward in the posterior tracts of Burdach and Goll, the fibres composing which tracts finding their first terminus in the nuclei of Burdach and Goll in the medulla. The cerebral connection of this tract is now made by means of secondary neurons which compose the sensory decussation crossing in the medulla, and passing via the medial fillet to the thalamus and cortex cerebri opposite to the side of entry.

Paths four and five. We have still two other sensory components to consider, the fourth and fifth.

Path four. This cannot strictly be termed a tract. Unquestionably many of the posterior root fibres do not end either in path one, two or three, but come to an end soon after entering the cord in cells of the posterior horn of the same side. From these cells spring the so-called *endogenous* fibres. These run up the cord for several levels in the lateral white matter and re-enter the posterior grey horn at higher levels in contact with other groups of cells in the posterior horn, from which a new set of fibres again springs to run for a short distance and to end in the same way. These endogenous fibres form therefore what must be considered a system of relays. No method which we now have can bring these short tracts to degeneration. Their existence was predicated upon physiological grounds, namely the necessity for connection of different levels of the cord. Further proof was brought by pathologic findings showing undegenerated healthy fibres after complete section of the posterior roots.

The cells of origin of the endogenous fibres are not situated in the spinal ganglia, but in the posterior grey horn and consequently are not affected by section of the root. The newer view of tabes which shows it to be a systemic root disease and the more careful studies of tabetic lesions have shown the presence of many healthy intact fibres in the most long-standing inveterate cases. Undoubtedly all afferent fibres come in via the posterior roots. Hence these endogenous relay tracts are really secondary neurons.

Path five. Lastly now we have to consider the fifth sensory pathway, which is very important and especially for the subject of this paper. The sensory pathways thus far stated ended as far as the cord was concerned practically uncrossed,

but there is another pathway described by a great many writers which is generally confounded with Gower's tract. It should not be, as we have seen that Gower's tract, the *ventral cerebellar* is for the most part an uncrossed, and in a much slighter degree a crossed tract *to the cerebellum*.

The tract which we are now describing has its origin in cells of the posterior cord grey either in those of the posterior horn, or from some of the Clarke cells, and the axons of these cells cross at once to the opposite side of the cord. Arrived here they ascend in the anterolateral white matter and end in the thalamus opposite to the side of entry in the cord. The formula for this tract is skin, spinal ganglion, posterior root, grey matter (primary neurons), and then continuing as a secondary neuron by crossing at the entrance level to the opposite anterolateral tract; thalamus, internal capsule cortex. On its way up it meets in the medulla, the fibres from the nuclei of the posterior columns which have just crossed and from this point on path five, which crossed in the cord, and path three, which was uncrossed in the cord and is now crossed, probably run up together in the fillet.

Path five may be called the tractus spino-thalamicus and let me repeat, should not be confused with the ventral cerebellar tract of Gower's.

According to Lewandowsky (loc. cit), however, this tractus spino-thalamicus does not exist in higher mammals and it is a point of some interest to quote him. "No matter how high up in the cervical region the cord be divided no ascending degeneration can be traced above the cerebellum and even the retrograde degenerations could be followed no higher than the red nucleus."

"Whilst in man this spino-thalamic tract has been described after lesions high up in the cervical cord, its existence has not been shown after lesions in the dorsal or lumbar cord. Inasmuch as it has been proposed to connect this tract with an upward conduction of pain, temperature and sense impressions, such a tract would have to exist a priori in the dorsal region, because dissociated sensory disturbance has followed one-sided lesions in the dorsal region."

Lewandowsky (loc. cit) has mentioned a case in which a small gumma situated in the lateral tract in the lower dorsal region produced cross-sided abolition of pain and temperature sense.

So much for the anatomical pathways of sensory conduction. It is certain that pain and temperature impressions inasmuch as they can be lost together must have the same path and this can be only in the lateral tract. It is not probable that this tract is the tract of Gower's,

as the tract of Gower's is shown by degeneration to end in the cerebellum. Furthermore cerebellar disease does not seem to interfere with any other form of sensation except that concerned in muscle sense, equilibration, and co-ordination. Disease of the cerebellum has no effect on pain or temperature.

As regards pain and temperature impressions, clinical findings show plainly that the conducting tracts must be crossed tracts. In man it is probably along the supposed tractus spino-thalamicus where such condition takes place.

Degeneration findings have not yet proved the existence of any long fibre tracts in this area. It would seem probable, therefore, that these impressions are conducted along the *relay* tracts before mentioned.

The axons of these tracts, as has been stated, spring from cells in the posterior horn or Clark's column, cross the middle line running chain-wise as was before mentioned. However, at some point or other these relays must connect with some tract which would carry these impressions further upward to the higher centers, the cortex certainly having cognition of pain and temperature.

Where this switching and junction takes place anatomy and physiology have not yet shown.

In man it is now fairly established that the long fibres in the posterior tract carry up sensations informing the higher centers of the sense of position and motion of the muscles. Further, these fibres run same-sided to the entrance side, at least, as high as the end stations of these tracts in the medulla. The fibres supervising this function in the posterior tracts are probably the broad fibres. There are still left, however, in these tracts many finer fibres. It is probable that these fibres carry upward same-sided to the entrance tactile impressions, which may be concerned in the so-called pressure sense, i. e., the sensation of finer localization.

As regards muscle sense fibres, we may fairly assume that these are not represented in any other part of the cord than the posterior tract. Kocher (loc. cit) quotes a case of Hammond's, wherein after a fracture of the eleventh dorsal vertebra a fragment pressed against the posterior tracts, causing symptoms which disappeared immediately after its removal. It is here expressly stated that muscle sense was completely abolished in the legs and feet, that the gait was ataxic, and with the exception of an uncertain tactile localization in the gluteal region and the thigh, no other disturbance of sensation was present. Motility of the legs was not affected. We may further assume that the two direct cere-

bellar tracts, the dorsal tract of Flechsig, and the ventral tract of Gower's, running for the most part uncrossed and in slighter degree crossed, of course, are concerned in equilibration and co-ordination. Further, as regards tactile sensation, in other words, basic cutaneous sensation—the power of localization of tactile impressions—one would think *a priori* that so wide spread a function whose intactness is a paramount necessity as a base for motorial activity, and which phylogenetically must be the oldest form of nervous sensory manifestation, must have a wide spread area of distribution.

It is not surprising, therefore, to find that tactile conduction is not limited to a unilateral path either crossed or uncrossed. We should rather expect an arrangement in the cord for centripetal transmission of tactile sensation whereby each half of the cord would conduct for itself as well as the other side.

Experiment has well shown that the posterior columns can be divided without affecting the tactile sense. Therefore, in man in hemileision of the cord we rarely find any abolition of tactile sensation same-sided to the lesion. Thus, whilst we may assume for muscle sense a strictly unilateral uncrossed path, it can be maintained for tactile impressions that is not the case. Therefore, whilst cases of motor paralysis with same-sided abolition of muscle sense are very frequent in the literature and are satisfactorily accounted for on anatomical and physiological grounds, the combination of motor paralysis with same-sided muscle sense loss and same-sided tactile anesthesia are infrequent and open to the suspicion that the hemileision is not strictly confined to the side paralyzed, i. e., more than a hemileision.

It is true that the cases of pure hemileisions of the cord in man that have been shown to be such by autopsy and microscopic study of serial sections are very scanty.

Jolly's¹³ case was well studied, but is not clear as to the condition at the point of lesion.

In cases of tumor where in the early stages the Brown-Séquard syndrome is often present clinically, one can never say even where the pressure exerted seems strictly one-sided that the other side of the cord is not affected by indirect pressure.

In this connection the excellent work of Schmaus and Enderlen in the finer pathology of the cord lesions before referred to should always be remembered.

RESUME.

Coming back to this tactile sense for a moment we may say that it has two pathways; one, the fine fibres in the posterior tract same-sided to the

point of entry, and the other in the series of relay fibres cross-sided to the point of entry in which we found pain and temperature sense also running.

We may conclude, therefore, that the muscle sense runs, as we have stated, in man in the posterior tract uncrossed. Possibly also the cerebellar tracts so often mentioned may be concerned in the transmission of this sense. Tactile sense runs partly uncrossed in the finer fibres of the posterior tracts, but to a much greater degree crossed to the side of entry in the relay tracts. Pain and temperature sense run *entirely cross-sided* to the point of entry in these relay tracts and the tracts for pain and temperature sense, and the crossed tract for tactile sense are probably identical.

In agreement with Lewandowsky these tracts must be considered as relay tracts inasmuch as no long ascending tracts in the lateral region except the cerebellar tracts have been found.

In conclusion a few words must be said about one other element of disturbed sensation connected with the Brown-Séquard syndrome—*hyperesthesia*. In regard to the hyperesthesia it will be remembered that the original claim of Brown-Séquard mentioned an increased sensitiveness of the trunk and extremities below the lesion for tactile, pain, and heat and cold impressions. In other words, whilst cross-sided to the lesion there was a diminution or loss of these qualities, *same-sided* to the lesion, he claimed, exaggeration of these same qualities. At or about the height of the level of the lesion where the nerve roots themselves are involved without being destroyed, hyperesthesia due to root lesion is very easily understood. The hyperesthesia, however, which follows hemileision in the cord on the side of the lesion is by no means so easily explained. In the first place, we are not dealing, as a rule, with hyperesthesia; *that is an increased fineness of tactile perception*, but rather with a hyperalgesia. As a rule this hyperalgesia is an early symptom and is related to root disturbance or often to co-incident meningeal implication. The patients usually complain of pain on movements of the extremities, or pain in the deeper parts. Both Lewandowsky and Kocher, as well as others, call attention to a delay in the transmission of tactile impressions which after a variable slight interval are then felt as painful impressions. It is probable that this phenomenon, unlike root involvement, is not related to the disturbance at any particular level, say the level of the injury, but is due to a block in the passage of impulses through the grey matter. Kocher (loc. cit) says in this connection: "If one-half

of the cord is divided the majority of the tactile conducting fibres in the lateral boundary zone of the posterior part of the lateral tract will be divided at the time of the lesion. These are fibres which have crossed at all levels below the lesion from the uninjured to what is now, as the result of the lesion, the injured half. Both tactile paths therefore on the injured side, viz., that in the posterior tract (uncrossed) and that in the lateral tract (crossed) cannot conduct. Therefore, the crossed fibres, that is, fibres in the lateral boundary zone on the uninjured side of the cord will have to conduct these impressions unaided by the fibres of the injured side. These have, however, in great part an indirect conduction; that is, they are compelled first to pass through the grey matter on their way upwards. The grey matter, consequently, of the uninjured side will be blocked by tactile, pain and temperature stimuli. This grey matter will therefore become in an exaggerated degree an organ of summation."

Physiologically we know that whilst single induction shocks are not felt, a combination of such shocks is felt. In other words, the grey matter has the power of storing up and combining single impressions until sufficient intensity is obtained. Kocher thinks that tactile sensations are in this way stored up by the block in the grey matter until they become intensified into pain sensations. Touch is felt therefore as pain (hyperalgesia), until the conduction of tactile impressions by the cross-sided tracts of the healthy side, and in part the posterior tracts also of this side, which are not interrupted in the cord, can be taken up and transmitted by them upward. Therefore this would correspond with the fact that in the beginning of a one-sided affection before it becomes complete, that is, whilst on the injured side the block in the grey matter and lateral tracts is not a total block, anesthesia is present, and that later on when all conduction on the injured side is abolished we have a complete hyperesthesia. I do not think that any satisfactory explanation of the hyperesthesia has as yet been given.

In this regard it is well to bear in mind the views of Goldscheider and others, viz., that afferent impulses in their simple form are probably tactile and that the grey matter of the cord seems to have the power to transform these simple touch stimuli into a more intensified or differentiated type. It is certain that tactile and muscle sense impressions are not completely dependent upon and that muscle sense is independent of this

grey matter. Loss of this grey matter seems to lead to abolition of pain and temperature and to a certain extent of tactile sense. This power of summation, that is, intensification or transformation resides in the grey matter. This seems the best explanation.

Clinically it is not nearly as constant a symptom as the other symptoms mentioned. In Kocher's cases it was often an early symptom. As is stated above, where present and localized to particular zones, it is of great value as indicating root disturbance on the side of the lesion.

1. Brown-Séquard. Lectures on the Phys. and Pathol. of the Cent. N. Sys., Philadelphia, 1860.

2. Kocher. Verletzungen der Wirbel Säule Mittheil ans d. Grenz gebiet der Med. und Chirurgie.

3. Berndt. Deutsche Med. Wochens, 1894, November 1.

4. Weiss. Arch. f. Klin. Chir. Bd. 21.

5. Schmaas. Pathol. d. Rückenmarks.

6. Enderlen. D. Ztschrft. f. Chir. Bd. 40.

7. Lewandowsky. Functionen d. Cent. N. Sys.

8. Schiff. Quoted from 7.

9. Turner. Bain XIV, 1891.

10. Mott. Transac. Royal Soc., CLXXXIII, 1892.

11. Quoted from 7.

12. Quoted from 7.

13. Jolly. Arch. f. Psych, XXXII, 1900.

14. Leyden and Goldscheider. Krankh. der Rückenmark.

The Ochsner-Fowler-Murphy treatment of acute appendicitis consists in six essential points, viz.: 1, no purgatives; 2, absolutely nothing by mouth; 3, no large enemas; 4, stomach washing, if necessary; 5, sitting posture; 6, continuous saline per rectum or under the skin.

If the patient is seen within the first thirty-six hours of the attack, operation is usually indicated; if seen after this time or if patient refuses operation, the majority of cases may be tided over under this treatment until after the seventh day, when an interval operation may be performed. In the hands of competent surgeons the mortality, when the above rules are observed, is comparatively low. Elsewhere in this issue Dr. Guerry reports 500 cases with only two deaths.—Old Dominion Jr. of Med. and Surg.

A PLEA FOR HIGHER ETHICAL STANDARDS.

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[Read before the Ohio State Medical Association.]

With much advantage could local medical societies make formal study of the principles of ethics. A comprehensive knowledge of the code would conduce as much to the well-being of the community, professional and lay, as would practice of typhoid fever prophylaxis. While this assertion is manifestly not susceptible to exact demonstration it is meant to be accepted at face value. Could the physician pass examination in principles of medical ethics as well as in the discussion of typhoid fever, many breaches of professional etiquette would be avoided. These inharmonies estrange for life men who should be brothers. How many patients are driven away from physicians to patent medicine and all uncounted and multifarious fakirisms by the unethical conduct of medical men is beyond any possibility of computation. Jealousy, that green-eyed monster, the *bete noir* of our profession, would be driven forever into his Plutonian lair were ethics as thoroughly taught in our medical schools as are some possibly less important subjects. Not having been sufficiently taught in the undergraduate schools the opportunity remains to our post-graduate school, the local society. With better agreement among physicians as to ethical conduct as well as to diagnosis and treatment the profession will be accorded higher standing in public esteem. Then some of our illustrious number may be awarded a place in the Hall of Fame. This better agreement will obtain only when better education shall be our more uniform possession and better conduct our more uniform practice.

Upon what authority have we a code? Has it real value? What relation should it bear to the individual physician? Does it merit his respect? Should it control his conduct? It is the crystallized opinion of the wisest men of a most noble profession. Our character is most in harmony with theirs when we accept its precepts and practice its spirit. The principles of ethics are to the physician what the Ten Commandments are to the religious world. Aye, more; for there is a greater commandment; and the principles of ethics are simply an exposition of the Golden Rule. He who most nearly does unto others as he would that they should do unto him will be the most ethical physician.

One duty imposed by this rule worthy of early consideration is expressed in Chapter II, Section 3: "Every physician should identify himself with the organized body of his profession as represented in the community in which he resides." Has the "organized body" done its full duty in enlarging its membership? There may be a certain amount of proselyting to be done; for we must recall that those without the organization may not be fully aware of our purposes and may not know that upon them rests the obligation of affiliation. You may have met a recent graduate or an older practitioner who is ignorant of the existence of a code, or, at least, is very little familiar with its doctrines. Teach such a one; for he can learn, and you are in duty bound to teach—your name is teacher (doctor).

Attendance upon the stated meetings of the society comes to possess a charm for the earnest doctor like that of the "camp-fire" for the soldier. It leads to the cementing of old friendships and the formation of new; reacting upon the ordinary routine of work in the same manner as alumni meetings. These rejuvenescences can have only good effect in sharpening the intellect and broadening the humanities of the doctor, and so leading directly to the advantage of his clients. The local society is a place of planting, pruning, attrition. In many instances it is the only post-graduate school the practitioner will ever know. It may be made a thing of constant and progressive value. Too often the physician has closed his books and his laboratory with graduation. But not because the subject is complete. So long as ingenuity dominates the mind, our science-art will present rich fields for investigation. Here abound questions demanding profoundest study and highest culture. Medicine, in its resemblance to that curved line which always approaches but never reaches its asymptote, cannot become an exact science. Who among its devotees can afford to stop learning? Not the foremost!

Fellowship with men of like aims stimulates progress, activity, work. Isolation fosters stagnation. The speediest horse is developed in the race, not at the plow. We are so constituted as to demand emulation for development. It required a war to produce a Grant, a Fenger to lead forth a Senn. Certainly any intelligent member of our profession, knowing the possibilities of fellowship for social, financial and the more strictly professional improvement and ethical development attainable in a well conducted society would be unwilling, even for a single meeting, to deny himself these benefits. These points positively assured by the society no man is there worthy of professional fellowship and

public confidence but would gladly be connected with the organization. We who understand these things, at least in part, desire them for our fellows. For the disgrace or the glory of each member reflects, more or less, all our guild in the public eye.

Have we made our programs of the greatest possible value? Have we constantly invited all the worthy material in our jurisdiction to the stated meetings? Have we put forth our utmost endeavor to work over into good the unpromising material? Have we stood loyally together at all times and in every place in striving to secure just and liberal fees for our service? Have we habitually discouraged the blackmailer from suing our professional brother for malpractice? Have we kept faith with our patients in refraining from the use of nostrums? Have we sought earnestly to fit correct reputation to the respective ability and character of our colleagues? Have we secured the public recognition our worth, our culture and our labors should command? When present society members can affirm these things the remaining half of our profession will appeal for a share in the benefits here conferred. No mandate of the code will be required. When we especially commend to one another and to the public those of our number who are striving to improve themselves in medicine as evidenced by their presence and activity in the society, then some of those now outside and interested more in loaferish gossip, stealing patients and backbiting their colleagues than in study and in cutting fees than in making service more valuable will have the greatest possible incentive to get into line. The progressive, earnest minority have it in their power by simple application of the principles of ethics to secure by far the largest amount of professional work in the community and with a much better collection percentage than the present average. A little education of the public will teach them that they no more want a doctor who does not attend his home post-graduate school than they want a school teacher who does not attend the institute. In fact they have already greatly encouraged this last by legal enactment. And the doctor who wishes to measure up to the full standard of public expectation a little later better now take due notice and govern himself accordingly.

Attendance should stamp a hall-mark of professional approval and so become a passport to public favor. Society membership should be a guaranty of personal character and professional qualification, subject to automatic forfeiture on serious lapse from this estate. It is a good plan to have the certificate of society membership

hanging on the wall of the reception room along with diploma, state license, fee bill, class picture and whatever such decorative mementos the doctor may thus display. And by the same token does it behoove our organization to be assured that this distinction be accorded to no unworthy son of Aesculapius. By proper education our patients would come within a short time to look for such evidence of fitness, and when not found seriously to consider transferring their patronage. We should thus educate in the highest interest of humanity—this is ethics.

To more complete organization is due largely the increased fraternal spirit recently appearing in our ranks. With still further advancement along this line what may not our profession expect to attain within another decade? For those disposed to cherish hope there is much in store if we but put our shoulders to the wheel and work as hard for our deserving colleagues as has been too much the fashion in the past to tear them down.

This argument for fraternity applies only to such men as are worthy the honor of brotherhood in a useful and respected calling. There are too many "legally qualified" who constantly and habitually demonstrate their unfitness. In misguided attempts to bolster up their own flimsy foundations they seek to damage the reputation of fellow practitioners more competent and honest than themselves. They were intended by nature and training for careers of chicanery, three-card-monte trickery, bunco-steering, piracy and murder. They have sinned away their day of grace and are worthy of no further consideration at our hands. They are beyond the pale of ethical redemption. By a united effort on the part of honorable physicians some of these may be relieved of state license and thus the profession freed from just so many foci of malignancy. Such harmonious action is demanded of us by every consideration of personal right, professional honor and public duty.

Regarding Consultations—It should be expected that a fine sense of honor will always obtain among the exponents of our high calling. Accordingly, Chapter II, Article III, Section 5: "In consultations no insincerity, rivalry or envy should be indulged; candor, probity and all due respect should be observed," etc. Probably so long as we remain on the hither side of the millennium, misunderstandings will inevitably occur. But it would seem that with such qualities dominant as candor and probity these could be explained to the mutual satisfaction, and that one would be at all times willing to be called to account for any real or seeming offense. In

the interests of harmony and for the good of all parties, especially of the wronging and the wronged, these unpleasant affairs should be adjusted when possible. In case of attempted adjustment resulting in failure the wronged may at least enjoy a free conscience and be wary in future. Such matters, disclosing circumstances and names, should be discussed among physicians loyal to the code and thus fair warning be given. Before many years the offender would be led to the conclusion, "There is something rotten" this side "the state of Denmark," and might accept the inviting suggestion to change his course. When choosing a consultant one may fairly express preference for a man who is at once an active society worker and an ethical physician. The argument would often be accepted if presented. And the educational value of such a course upon the profession itself would be exceedingly wholesome.

Regarding Newspaper Notoriety—Doubtless many honorable physicians have been greatly annoyed by having their names published in connection with operations or startling cases in violation of professional ethics. The ubiquitous and inventive reporter makes a good "story" for his paper, publishing unwarranted diagnosis and distressing prognosis, giving as authority the attending physician whom perhaps he has not seen and whose opinion he may have no means of knowing, except as revealed by his own uncultured intuition. Such a report has recently brought a reputable physician of this city into strained relations with a patient's family, the newspaper report to the public being so much at variance with the physician's statement to the family.

Of course a physician who regards ethics will not "publish cases or operations in the daily prints, or suffer such publications to be made" (if he can prevent it). And it must be exceedingly annoying for such a one to be classed by the newspaper reading public, professional and lay, as one of those pseudo-fakirs who is always striving to get his name into the papers in connection with cases of sickness, accident, operation, post-graduate course, runaway, automobile collision, etc., etc., *ad nauseam*.

It must be somewhat difficult for the lay reader to make fine distinctions between the ethical characters of the physician whose name is published innocently, of the one who pays for space to advertise his miraculous cures and of the various grades between these extremes. The only safety for the physician as distinguished from the quack seems to be to give over the public prints entirely to the latter. Then these

may be recognized by their bad eminence, the others conspicuous by absence. The short sighted member who persists in this offense should be made to know that he cannot thus affront the great body of the profession and go unpunished.

Regarding Fees. Probably a great incentive to the more perfect organization of the past few years is found in the hope of furthering our material welfare. However well we may already have accomplished this, large room still remains for improvement. While the fee question may be the least noble of all the considerations for our betterment, it is absolutely fundamental to our increased efficiency and is thus a matter of equal importance to the public and to the profession itself. If physicians cannot be induced upon higher considerations to work together for the public good, it would seem that all could agree in at least the one point of fairly adequate minimum remuneration.

Under present conditions we have many more physicians than required. If all the work were done by those having better than average qualifications the value of the service to the commonwealth would be inestimably greater. And these better qualified members would have experience and reward enough to make themselves still more useful to their fellowmen. Our organization does to a degree and should still further conduce to this result. When this desirable condition shall obtain we may understand that the same process of selection in medical schools would condense the valuable features in about 160 more or less worthy and more or less worthless institutions into a smaller number occupying the correspondingly higher plane. With one-fifth our present number we should still be numerically more liberally supplied with medical schools relatively to population than is the German Empire, to which we look with so much respect for things accomplished in our scientific development. "Oh Liberty! Liberty! How many crimes are committed in thy name!"

A too much neglected consideration is mentioned in Chapter II, Article VI, Section 3: "Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit." Proverbially it is easier to lower a fee than to raise it. And this yielding along the line of great pressure seems to be with too many of us at once a *locus minoris resistentiae* and the passport sought to public favor. The doctor who underbids another may have membership in the so-

ciety and the fellowship of the profession; but he who thus acknowledges his inferiority is not fairly entitled to these benefits. The only excuse for harboring a man with ideals so low and practice so base is the hope of reforming him by association with his betters. If he do not soon earn the lesson and comply with at least the minimum requirement, he should be dismissed the society "without honor" "for the good of the service."

No reference need be made to the profession's charities. It is known to all men that these are freely extended to the worthy poor and to the unworthy poor, as well as to too many not so poor as ourselves, in amount unapproached by any other profession or institution.

A physician's vocation cannot be regarded on the exact commercial plane of *quid pro quo*. His service is a personal matter and is valuable according to the quality and amount of his native intelligence, preliminary education and special training; his readiness to respond to calls and his reliability; his physical health and moral fibre; his kindly expressed sympathy and his psychic atoneness with his patient; his experience and his inherent and acquired adaptation to his chosen art. These elements vary with the individual and no hard and fast rule can be made to adjust a scale of prices with absolute fairness and accuracy. But a "minimum pecuniary acknowledgment" can be stated, and this is all our ethics attempts to establish. The great financial Scylla is that so many men value their service at or below even the minimum. An untaught and so unprotected public, accustomed to buying in the cheapest market, sometimes seeks the low priced doctor and thus meets the Charybdis of its own ignorance.

The state classifies its school teachers, but not its health teachers; protecting the public in one case, licensing a lottery in the other. When physicians shall be licensed by national authority after comprehensive examination as first, second or third class, to practice wherever float the stars and stripes on land or sea, the public will have a measure of protection not now afforded and may have more satisfaction in knowing what it is paying for. Few will choose the lowest grade.

If physicians would hew to the line in medical ethics, the battle with secret remedies, prescribing druggists, jeweler opticians, free dispensaries, contract practice, rate cutting at the behest of corporations, fraudulent newspaper advertisements and the invidiousness of the press with many other public enemies, including all the fakirs outside and many of those within the profession, not omitting the flamboyantly adver-

tised "professor" in the stock-company medical school, would be of short duration. And seeming selfishness in this course would be in reality the highest altruism; for the crux of every social regulation involves in its final analysis the greatest good to the greatest number. In the words of a recent writer, ours "is a sacred calling, but those who think it so must avow and disown its sycophantic parasites who flatter its vices and perpetuate its errors."* By ridding ourselves of the frayed tatters on our skirts we shall merit and may justly hope to receive the due public esteem. With an adequately purged and purified profession, alive to its vocation and the best interests of humanity, the amount of professional work remaining to the survivors of the process would be largely increased; so much so that doubtless all approved practitioners would be able to secure a liberal sustenance from their proper occupation, a generous return upon the capital invested. When people come to realize that the radical cure of hernia, the correction of talipes and other congenital and acquired deformities, and of defective vision, the prevention of communicable diseases and the continual preservation of health and normal physical and mental development are actually worth more than beer, lupanars and finés, excursions and theaters, purple and fine linen, houses and lands, stocks and bonds, the fine arts or even ordinary education, then will they be ready to spend their money for that which is bread. They will entrust us with these responsibilities when we teach them that we are equal to the burden. Thus opens an ever expanding field to our cultivation. With a proper appreciation of the fact that one's health is his best business asset and a well founded belief that physicians are fairly able to conserve this most precious of possessions there will be less glaring disparity between lawyer's fees and doctor's fees.

The poverty of our profession is pitiable and inexcusable. We have ruinously crippled our resources for adequate office equipment and educational betterment by indulging in expensive and ostentatious equipage which we are unable honestly to maintain and by all manner of extravagance in an attempt to "keep up appearances." By such means we seek to communicate to the public the delusional insanity that we are busy and prosperous. By such fundamental foolishness we have induced many non-qualified candidates to seek entrance into our profession, actuated chiefly by the mistaken notion that they

*Geo. M. Gould, Biographic Clinics, Vol. III, p. 452.

will thus have a pleasant and easy road to competence; forgetting that the various fads such as osteopathy and Christian Science, with their numerous congeners, are dividing our paying clientele, while the number of poorly paid physicians is actually and relatively increasing; forgetting that legislation is constantly requiring more from us while apparently guaranteeing less to us, and forgetting that the prevention of smallpox, mosquito fevers, tuberculosis and the other most dread plagues of the race is, in so far, constantly and progressively limiting our occupation. To this stupidity may be traced much of the overcrowding of our profession by too raw material. By this means also we encourage patients to be as slow as they like in settling accounts; while the faddists do a cash business. Would not our well-to-do patron respect us more if we showed more worldly wisdom? When did we become an endowed institution able freely to give of our substance without compensation, or to lend it without interest? What citizens are more worthy of life on generous scale with access to all cultural advantages and who appreciate these things more highly than the doctor and his family? Have we forgotten that upon the high quality and relative prosperity of no other class of workers does the public welfare so much depend?

A condition, not a theory confronts us. Are we equal to the emergency? If not can we rise to the splendid occasion? Too long have we borne the thankless burden of the profession's barnacles. The best cannot afford to bear an escutcheon tarnished by the less than good. When we make so broad the line of demarkation between the sound and the gangrenous in our

profession that the public must see even with astigmatic and cataractous eye, then shall we come to enjoy our proper heritage in the public esteem. *L'esprit de corps* can furnish only a basis of supplies; but in time of battle this is of exceeding importance. Thousands of our brethren throughout this broad land are rousing from long insensibility to their opportunities. Yet upon the quality and courage of each must depend his own salvation with his own clientele.

"Hereditary bondsmen! Know ye not
Who would be free themselves must strike the
blow?
By their right arms the conquest must be
wrought?
Will Gaul or Muscovite redress ye? No!
True, they may lay your proud despoilers low,
But not for you will freedom's altars flame.
Shades of the Helots! Triumph o'er your foe!
Greece! Change thy lords, thy state is still the
same!
Thy glorious day is o'er, but not thine years of
shame."

(*Childe Harolds' Pilgrimage, Canto Second, Stanza LXXVI.*)

With apologies to Byron let us turn to a picture more pleasing:

Altruistic doctors! Know ye not
Who would be free themselves must strike the
blow?
By their high deeds the conquest must be
wrought?
Will Gout or Angina redress ye? No!
True they may lay your moaning patient low,
But not for you will equity obtain
Unless ethics rule. Hippocratean shades!
Thy hopeful paens raise; thy state shall still
be proud;
Thy glorious day is come, and righteous men
applaud.

MEDICAL ECONOMICS

By J. W. CLEMMER, M. D.

STERILIZATION OF THE DEFECTIVE CLASSES.

Two per cent of mankind at least are unfit to reproduce their kind. This includes the defective classes, the mental, moral and physical degenerates, who are a burden to themselves and a menace to society. They augment the number of inmates of penal, reformatory and eleemosynary institutions of the municipality, county and state. Animal industry, taught in colleges and practiced by owners of horses, cattle, swine and all domestic animals, prescribes the elimination of defective individuals and classes by limiting breeding to select animals. In the human family de-

generates of all kinds are permitted to marry and perpetuate defective individuals. Procreation, with or without marriage, takes place even within the jurisdiction of institutions maintained for the care of defective classes. To deal justly and humanely with these classes, while conserving the best interests of society, is a problem as important as it is difficult. Marital and moral restraint, segregation and education have been proposed as remedies for the growing evil; these measures as deterrents of procreation, it is evident, are useless, yet they exhaust the means to be offered by the laity.

The medical profession now proposes to join

hands with the sociologist and statesman to provide the only certain and humane measure to compass this social reform. Sterilization of the defective classes by excision of the spermatic cord in the male and ligation of the Fallopian tubes in the female—is an efficient remedy to check procreation, and has been shown to be a possible and practical measure.

Dr. Harry C. Sharp, of Indianapolis, read a paper before the Section on Public Health and Preventive Medicine at the June meeting of the American Medical Association, giving his experience in sterilization of 456 inmates of the Indiana Reformatory. The operation of vasectomy, in his cases, was made without either local or general anesthesia, showing that only a trivial amount of pain is inflicted by this simple procedure. In no case were there either local or systematic disturbances following the operation; no dressing was required or used for the slight incision made in the scrotum, and patients were permitted to return to their usual avocations immediately after the operation. Only beneficial results were derived by the individual from the operation. This fact is easily understood from the benign influence produced from the resorption of the testicular secretion and stimulation of the nerve centers of the spinal cord, a doctrine announced by Brown-Séquard and reaffirmed since by physiologists and internists. It is evident from the experience of Dr. Sharp alone, in a large number of cases, as stated in his paper, that vasectomy, instead of subtracting from, adds to the status of the individual operated upon, the elements of vigor and health. The retention of the internal secretion produces a feeling of well being. The only abnormal change produced is the inability to procreate, but otherwise the venereal function is not modified or impaired.

It now remains for the Ohio legislature to enact a law to minimize the propagation of the defective classes in charge of public institutions by humane and even beneficial methods advocated and demonstrated by the medical profession. Such a law is in successful operation in Indiana and a number of other states.

There are 149 members in the House of Delegates of the A. M. A., under the recent triennial apportionment. Each delegate represents 500, or fraction thereof, of members in the State Association. Illinois gained two and Pennsylvania gained one, giving each nine delegates, tying in second place, with New York in the lead with

eleven, and Ohio with seven delegates (increase of one), in the fourth place. Kansas, North Carolina and Michigan each lost one. Tennessee, West Virginia, Missouri, Kentucky and Arkansas each gained one.

If men are to be judged by the worst they ever did the world would go begging for human greatness.

The tolerance of the opinion of others indicates worth of character.

STATE HOSPITALS.

The Committee on Public Policy and Legislation again calls for aid in securing the appointment of a physician to each one of the boards of trustees of State Hospitals. The state institutions neither penal, reformatory or educative in character are state hospitals for the care of her sick and afflicted wards. In the name of these afflicted and defective classes and in tune with an awakened public conscience it is time that the push of politics should loosen up sufficiently to allow the medical profession to divide a technical duty and responsibility with the chronic office seeker.

By-law authority is given the committee to act in such matters and its members have taken the initiative in asking one governor after another to make these appointments. The push of the profession must equal that of politics before results are obtained. Hospital work naturally belongs to medical men. Public policy demands at least one physician on each of the boards of trustees of State Hospitals. State medical institutions and state medical boards should be regarded as the children of the medical profession. Their activities should reflect credit upon medical science and secure the best results for the public.

It is suggested that the State Association through its council select suitable members, located in different parts of the state, and certify their names to the committee to be kept on file for use in asking appointments to these state offices.

In strapping the chest for a fractured rib, two points should be carefully noted: (1) The straps should pass well beyond the median line. (2) They should be applied in full expiration. One or two straps passed over the shoulder helps much to secure immobilization.

—Exchange.

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THE FIRST LESSON OF THE NEOPHYTE AS A DELEGATE TO THE AMERICAN MEDICAL ASSOCIATION.

The manifold interests of the American Medical Association are conducted on the same business principles found in other great and well-organized corporations.

The scientific work is divided among thirteen sections, each of which attends strictly to scientific work and by holding two daily sessions throughout the meeting altogether a vast amount of material is presented for consideration and discussion, bringing out the latest advances and developments of medical progress.

All other interests are in the hands of the executive officers, a board of trustees, special committees (now numbering thirteen), and six standing committees, all under the direction of the House of Delegates. The latter is limited to 150 and is made up of representatives of the various component state societies, one from each section and government service, each delegate being elected to serve a term not to exceed two years.

The reports of the officers, trustees and committees submitted to the House of

Delegates for final discussion, amendment and adoption filled a volume of 146 printed pages, which gives some idea of their scope. The Board of Trustees, consisting of nine members with a three-year tenure of office has charge of the financial affairs and property of the Association; defrays the necessary expenses of the standing committees and special committees, arranges for the annual meeting, regulates salaries, etc.

The standing committees are as follows: The Judicial Council, Council on Medical Education, Council on Pharmacy and Chemistry, Medical Legislation, Board of Public Instruction on Medical Subjects, Transportation and Place of Meeting.

The special committees are: Organization, Ophthalmia, Neonatorum, Scientific Research, Davis Memorial, Nomenclature and Classification of Diseases, Defense of Medical Research, Scientific Exhibit, Patents and Trade Marks, Drug Reform, Uniform Regulation of Membership, Principles of Ethics, Pharmacopeia and Arrangements. These lists give some idea of the wide and diverse character of the work of the Association.

The 67,000 physicians in alliance with the parent organization are chiefly interested in scientific pursuits and have little knowledge of organization work. It is their business and their duty, however, to ensure the success of this work by personal attention in securing strong representation in the National House of Delegates. Without at least this much attention criticism has no virtue nor excuse.

The work of the National body is necessarily performed by men trained in continued service. It requires time and study to become acquainted with such important duties and the best interests of the united profession demand that the State Association select strong men as delegates to the parent organization. They must be men willing to sacrifice all their time, while in attendance upon meetings of the National Association, to the work of the House of Delegates.

The State Association should require a full report from its delegates for the information of its members. Our state has gained one delegate in the new allotment and is now entitled to seven, making a delegation which should merit and secure greater influence and consideration that it has obtained in the past. We are strongly organized at home and should take a higher rank in the councils of the National Association. This can only be brought about by continuing delegates in office who will conscientiously devote themselves to the organization work. Ex-President Silver recognized this necessity and recommended that delegates be elected for a four years' term. The by-laws of the A. M. A., however, prescribe a membership of two years, and therefore either this must be amended, or what seems much simpler, the precedent must be established and maintained of re-electing members of the delegation

who show their interest in, and aptitude for this service.

EXPERT TESTIMONY.

We would draw especial attention to the address of Dr. Curran Pope, of Louisville, Ky., delivered as the annual oration before the Section on Nervous and Mental Diseases at Cincinnati, and published in this number of the Journal.

The selection of this topic for the special address and the interest shown in the subject by the members of the section, indicate how keenly that class of physicians which is most frequently called upon for expert testimony, feels the criticisms which have fallen upon the "medical expert" in recent years, and recognizes the necessity for seriously considering the problems involved lest a very important function of our profession be seriously injured.

There is no question but that the great mass of censorious disapproval voiced by the public press is uncalled for, and in many cases, purely the result of the "yellow" tendency of modern journalism; there is, however, just a sufficient amount of truth in a few of the charges to throw a certain amount of discredit on the present status of the medical expert. It is, however too absurd to hear and read the wise strictures and supercilious disapproval emanating from many members of the legal profession. Especially are they severe upon experts who may entirely conflict in answering the same hypothetical questions—holding up such to derision. And yet we see every day cases decided in one court, and appeal taken to the next higher, and on the same testimony, the decision reversed; appealed again, perhaps reversed again, and so on to the Supreme Court of the United States, ("after which there is no one to appeal to but God"), and decided upon

for all time possibly by a vote of four to three, and they criticize us if forsooth occasionally two members of our profession take opposite views on the same question.

One must never forget, as Pope says, that in all cases of medical expert testimony the witness is not testifying to the facts of the case, but giving his opinion or judgment upon a supposed comprehensive description of the facts given by the lawyer representing one or the other sides of the case, and thus the personal equation of both lawyer and physician enter as factors of, at present, unknown quantity.

Nevertheless there are certain abuses which should be corrected, and to this end many of Dr. Pope's suggestions seem very pertinent—especially the following:

There should be certain recognized qualifications before anyone may testify as an expert witness, for not every physician by any means is entitled by training or ability to be considered an expert.

The physician in attendance should be a witness to the facts and not called upon as an expert.

The hypothetical question, if not altogether abolished, should be hedged about with protective restrictions.

Above all, an impartial commission of recognized experts appointed by the court, to investigate the facts or examine the patient, and report to the court. If any questioning be done let it be done by the judge in the interest of justice and without prejudice.

There are other points of interest, and considerable discussion along these lines will be necessary before any concrete results will be apparent. Such papers are very valuable and will help bring out the happy solution in time.

"ANAPHYLAXIS" AND "ALLERGIE"

The above named terms appear frequently in the current medical literature. Anderson and Rosenau in the June number of the Archives of Internal Medicine have given an excellent study of the conditions indicated with a thorough view of the literature to date and bibliography of 184 references on the subject.

Anaphylaxis (*ana* against, and *phylax* guard, or *phylaxis*, protection) was a term introduced by Richet as an antonym for prophylaxis, but as the phenomenon is now regarded by Anderson and Rosenau, it is a misnomer, as the condition of hypersusceptibility is really a conservative and beneficial process.

It is a specific reaction and may be congenital or acquired, in the latter instance it is induced by the introduction of proteins, which may be non-poisonous in themselves, but which bring about after a period of incubation of from eight to thirteen days, a high degree of susceptibility, even to the extent that a second injection of the same protein may cause death.

Allergie (*allos*, change, and *ergon*, action) was suggested by von Pirquest to indicate the condition of acquired immunity associated with anaphylaxis, he arguing that the term immunity should be restricted to that state of complete resistance which gives no clinical reaction whatever to the various bacterial poisons.

The study of the processes involved in the productions of these states shows them to be very complex and involved. A great many laboratory workers are conducting experiments, classifying results and deducing theories. A great mass of data has been collected, some rather contradictory, but indications point to an elucidation of the subject, it is to be hoped, in the near future.

These investigations are of extreme importance and pregnant with momentous consequences in that such steps toward the

solution of the mysteries of our complex vital process, will lead to our learning how they may be controlled and eventually to the medical millenium when perhaps by the use of specific sera, whose action we understand and therefore can gage definitely, we may use accurately and really *cure* disease.

EDITORIAL NOTES

BERNARD SHAW AND THE MEDICAL PROFESSION.

Bernard Shaw, the English novelist and playwright, has attacked the medical profession. It appears to be reckless iconoclasm and cheap cynicism used to reinforce his advocacy of socialism. The injustice done the profession is multiplied by cult publications which assimilate such misrepresentation to nourish the prejudices of the public. In effect Mr. Bernard says: (1) the average doctor is a dangerous man because he is humiliatingly poor and is forced by competition to be a tradesman who sells his "cures" for what he can get; (2) the doctor is as honest as he can afford to be; (3) he adapts himself to the ignorance of his patients; (4) in practice he unlearns much taught him in hospital training; (5) on a wholly unscientific plane the doctor does surprisingly well; (6) it is lamentable that the doctor's income should thus be reduced by his own efficiency and many doctors ruined by the advance of preventive medicine; (7) Socialism is the remedy which would allow every medical man to work in the public service independent of quackery now imposed on him by his patients.

No argument or institution can rest upon such reckless disregard of truth. The medical profession needs no defense. It simply needs to be understood. This is evident from the many misrepresentations in high places, in congress, in legislatures, in public print and among intelligent people. There is nothing of so much importance to the people concerning which there is so much ignorance and prejudice, or so little activity manifest either in public or private life, as in matters of health and disease. Why do these things exist? Mr. Shaw reminds us they are seen in the public press, in public service, in public office and public institutions. Their evils are seen in self medication and quackery, in the multiplication of medical cults and in the inefficient organization of the public health service.

Great writers are prone to share the prejudice of unthinking people in regarding professional men as tradespeople. "The object of a trade is

to make money, the object of a profession is to bless mankind." Public policy characterizes professional organization. Note how all the activities of medicine make for the public good. This is true of the accumulation and diffusion of medical knowledge. This is true of medical knowledge; this is true of medical education and legislation, public instruction and medical research, drug reform and the public health defense. These and other activities conducted by organized effort throughout the civilized world place medicine on a socialistic basis not dreamed of by Mr. Shaw in his philosophy of socialism.

In a system of political economy the value of medical service is not to be estimated on a commercial basis. No one can place a monetary value on the lives saved and to be saved by the anti-serums and anti-toxins by surgery and the laboratory findings that make the abatement of many communicable diseases effective or possible by means of prevention.

It is repeated: the medical profession simply needs to be understood.—J. W. C.

INCREASING PREVALENCE OF ANIMAL TUBERCULOSIS.

The reports of the Bureau of Animal Industry of the United States Department of Agriculture indicate that tuberculosis among live stock is steadily increasing, as shown by the number of animals found affected at the various slaughtering centers. The increase in the number of cases found is due in part, but only in part, to the increased efficiency of the method of inspection. The meat inspection figures show that nearly one per cent of cattle and over two per cent of hogs slaughtered are tuberculous, which is surely an alarming condition.

Feeding experiments conducted by the Bureau have proved conclusively that hogs are readily infected through the ingestion of feces and milk from tuberculous cows. There is therefore no doubt that the prevalence of the disease in hogs could be greatly reduced simply by eradicating it from cattle.

Considerable testing of cattle has been done in Washington, D. C., and vicinity for the purpose of assisting the district authorities in obtaining a pure milk supply, and of obtaining for the Bureau further information regarding the extent of tuberculosis in the locality and for other purposes. In these tests about seventeen per cent of the dairy cattle reacted.

The percentage of tuberculosis in various states, shown by tests conducted by the officials in those states with Bureau tuberculin, indicates

that from 2.79 to 19.69 per cent of the cows react, and it is estimated that in the country at large at least ten per cent of the cows in dairy herds are tuberculous.

The recent agitation about the milk of tuberculous cows as human food has had the effect of causing many herds to be examined, with astonishing results not only to the owners, but to the officials themselves. Can it be wondered at that so many infants and children die of intestinal tuberculosis when so many of the cows from which milk is obtained are tuberculous?

Without considering the matter as a public health question, but looking at it entirely from an economic standpoint and as a business proposition, livestock raisers cannot afford to have tuberculosis in their herds. As an illustration, Argentina requires that all cattle imported into that country shall be subjected to the tuberculin test upon arrival, and as a consequence exporters from the United States have had the test made on cattle intended for shipment. The results of these tests showed that in some of the purebred herds nearly fifty per cent of the animals were diseased and in consequence sales were lost.

When the practice becomes general for all buyers of breeding cattle to have animals tested before placing them in their herds the breeder of strictly healthy cattle will be much sought after. Already some breeders of purebred cattle have established or are arranging to establish such herds. As soon as the breeders fully understand the fact that it is unprofitable to go on breeding cattle while tuberculosis exists in their herds much of the objection raised against the sale of live stock subject to inspection will disappear, for it would be worth the price of several condemned animals for the owner of a valuable herd to know the fact as early as possible if the disease exists in his herd, as the longer he delays in taking steps to prevent its spread the greater will be his loss eventually. Figures for the last year secured from abattoirs where Federal inspection is maintained show that over ten billion pounds of meat was inspected, forty-six million pounds of which was condemned, nearly three-fourths being for tuberculosis.

The recent effort of the large packing interests to buy all dairy cows subject to postmortem inspection shows how serious the plague is becoming. Sooner or later the man who raises tuberculous animals must suffer the loss, unless the loss is paid for out of public fund; and when the loss is placed upon the producer we may then know that the end of the disease is in sight.

It may at some time be necessary for the Federal Government to quarantine against interstate

shipments of cows from certain states where the disease prevails to a considerable extent, and require a strict supervision over all animals removed from such states for interstate shipment, and only remove the quarantine from sections of the state when it has been demonstrated that the disease either has been eradicated or is under strict local quarantine.

ABSTRACT OF THE PROCEEDINGS

Of Delegates to the American Medical Association, Sixtieth Annual Session, Atlantic City, New Jersey, June 7-11, 1909.

The *Journal A. M. A.*, June 19, gives in full the proceedings of the House of Delegates at the recent Atlantic City session. The House of Delegates met in the Solarium of the Traymore Hotel on Monday morning, June 7, at 10:30, and was called to order by the first Vice-President, Thomas J. Murray, of Montana, who announced that the President, Dr. Herbert L. Burrell, of Boston, was not able to be present on account of illness. After the report of the Committee on Credentials and the roll call, the President's address was read; in which a number of matters regarding the organization and conduct of the Association were discussed. Regarding the proposition to increase the membership of the Board of Trustees, President Burrell was of the opinion that it was unwise, as a larger body would be less disposed to conservatism and he held that there should be a distinctively conservative body in the Association. In the way of positive recommendations, he discussed the various boards and committees of the Association and their work, recommending that the President and President-Elect be invited to be present at all meetings of the Board of Trustees, that the work of all committees, as well as the policies pursued by them should be subject to the approval of the Trustees, and that all defined policies of all committees, boards and sections of the Association be approved by the Trustees before being published. He furthermore recommended that the Board of Trustees be requested to report to the House of Delegates at the next annual session their opinion as to the wisdom of separating the offices of editor and general manager and secretary of the Association. The address with its recommendations was referred to the Reference Committee on Reports of Officers.

Following the appointment of the Reference Committees, the report of the General Secretary was presented, showing that the membership of the American Medical Association on May 1, 1908, was 31,343 and on May 1, 1909, was 33,935. The losses during the past year have been as follows: Died, 290; resigned, 1,439; dropped for non-payment of dues, 484; dropped as not eligible, 290; names removed, not found by the postoffice Department, 55; total, 2,558. The new members for the year have amounted to 5,150, making a net gain of 2,592. After announcing the interim committees appointed by the President and commenting on several features of the Association work, the General Secretary pre-

sented a review of the work of the last ten years, during which time he has served the Association as General Secretary. A comparison of present conditions with those existing in 1889 shows that 10 years ago the membership of the Association was 7,997. The membership today as shown above, is 33,395, an increase of 25,398, or 424 per cent., being an average growth of 2,600 members per year. The following table shows the membership of some of the state societies ten years ago and today:

	1899	1909	Increase
Colorado	326	739	226%
California	309	1,861	602%
Connecticut	660	872	132%
Florida	145	285	190%
Illinois	515	5,265	1022%
Indiana	1,561	2,587	165%
Iowa (Est.)	684	1,850	270%
Kentucky	500	2,231	446%
Louisiana	458	1,069	231%
Michigan	550	1,892	344%
Minnesota (Est.) ..	450	1,214	270%
Nebraska (Est.)	400	863	215%
New Hampshire ..	360	520	171%
New Jersey	854	1,400	163%
Ohio	885	3,962	450%
Tennessee	400	1,377	344%
Texas	297	3,100	1043%

The figures are lacking for the total membership of the combined state societies in 1889, but in 1902 an estimate made by the Committee on Reorganization showed the total membership of all the medical societies at that time to be approximately 34,000. The combined strength of the associations constituent to the American Medical Association is today 67,362. Another point of comparison instituted was in the matter of state journals. In 1899 not a single state association owned and published an official journal. Today there are 19, while a number of other states have recognized certain journals as official. Further comparison was also made regarding the increase in the effectiveness of the organization in county, state and nation during the past decade, showing the progress that has been made along all lines.

The report of the Board of Trustees was presented by the chairman, Dr. William H. Welch, of Baltimore. The work of the Council on Pharmacy and Chemistry was strongly commended, the report stating that it is impossible to overestimate the value of the work done by the council and that the physician is no longer dependent on the exaggerated, extravagant, and often untruthful and absurd statements of the advertising agent for his knowledge concerning new products and preparations, but may obtain the desired information from a trustworthy source which has no other aim than to make known the facts in the case.

The work of Dr. McCormack was endorsed.

The value and importance of the American Medical Directory was considered and the statement emphasized that the directory should be regarded not primarily as a commercial enterprise but as an effort on the part of the Association to supply the medical profession and the public with reliable data regarding the physi-

cians of the country and that it consequently should not be regarded as a source of revenue, but rather as an investment for the benefit of the profession and the public.

The principal recommendation of the Board related to the erection of the new building which has been made necessary by the constantly expanding work of the Association. The Trustees recommended that the House of Delegates authorize the construction of a new building at a cost of approximately \$200,000. The proposed building will be 61 by 120 feet, consisting of six stories and a basement, with walls sufficiently strong to add two more stories, if necessary. In concluding their report, the Board of Trustees called attention to the fact that this meeting closed the most remarkable decade in the history of the organization.

Mention was also made of the death of Dr. T. J. Happel, which occurred just before the Atlantic City meeting.

The addenda to the Trustees' report contained the detailed reports from the subscription department of the *Journal*, treasurer's report, auditor's report, giving the receipts and expenditures of the Association in detail and a summary of the expenses of the various departments of the Association work.

The Committee on Medical Legislation presented a report covering the progress of national and state legislation during the past year, the various measures which have been before Congress along the line of the regulation of public health, the organization of a national bureau of public health, the reorganization and expansion of the United States Public Health and Marine-Hospital Service, the various bills relating to naval medical reorganization and hospital ships, and the sanitary work in the Canal Zone.

In reviewing the legislative work in the various states, a summary of the legislation proposed, enacted, and defeated in the different states was presented, showing that the legislatures had been in session during the past winter in 40 states and that the two most important matters had been the passage of the model vital statistics bill in Missouri and the effort to enact the Herbst-Shreve bill, regulating the practice of medicine in Pennsylvania. The work of the Bureau of Medical Legislation in preparing model bills for uniform state legislation on vital statistics, pure food and drugs, regulation of the practice of medicine, etc., was considered and the recommendation was made that the Committee on Medical Legislation be authorized to call a general conference to be devoted to the discussion of the essentials of a uniform medical practice act for adoption by the various states.

The report of the Council on Medical Education contained a summary of the work of the Council for the past year, special attention being given to the Fifth Annual Conference on Medical Education held in Chicago, April 5, 1909, at which the principal topic for discussion was the report of the Committee on Curriculum. A large amount of most interesting and valuable statistical and tabulated matter was presented, showing the present condition of medical education in the United States. The report stated that in the last five years, there had been much progress toward uniformity. Five years ago, only

20 state medical practice acts made provision for preliminary education; today, 36 have such a provision. Great advance has also taken place in the requirements for examination, the increase in the authority of the boards and the increased reciprocal relations between the various state boards.

At the second meeting of the House of Delegates, held Monday afternoon, the report of the Committee on Ophthalmia Neonatorum was presented, giving a summary of all resolutions, communications, reports, etc., relating to the work of the committee, the members of the national Committee on Ophthalmia Neonatorum, consisting of one member from each state, the members of the committees of the various medical societies, a tabulation of the replies to a circular letter sent to the superintendents of schools for the blind regarding the percentage of blindness due to this cause, the progress of the campaign against this disease carried on during the past year, as well as a large amount of most interesting and valuable matter on the laws regulating ophthalmia in the various states as well as the laws regulating it in the larger municipalities. The report of the committee is a most valuable one as showing the present condition of legislation and public opinion on this subject.

The report of Dr. J. N. McCormack, of Kentucky, chairman of the Committee on Organization, was presented, reviewing his work for the past year and emphasizing the possibilities of such work before educational bodies and schools and especially in institutions which are engaged in preparing teachers, editors, lawyers, clergymen and other leaders of public opinion for their life work. Dr. McCormack stated that his experience had convinced him that with the aid of the teachers and the schools, a generation of voters and legislators can soon be so trained that the vast interests represented by preventive medicine will come to be appreciated as among the most important and easily conserved of the nation's resources. He further urged such an alliance between physicians and teachers as would make all that is involved in the work of the medical profession matters of common knowledge.

The Committee on Scientific Research recommended grants of \$200 each to Drs. Isabel Herb, of Chicago, H. T. Ricketts, of Chicago, and R. M. Pearce, of New York; also a grant of \$200 each to Drs. D. J. McCarthy and M. K. Myers, of Philadelphia. The Committee asked for an appropriation of \$1,000 for the coming year.

The Board of Public Instruction on Medical Subjects reported progress.

The report of the Committee on Nomenclature and Classification of Diseases, appointed last year, submitted an exhaustive report giving the specific recommendations of the committee as well as the recommendations of the Committee on Vital Statistics of the American Public Health Association, showing the changes advised in the international classification of the cause of death.

The Committee on Patents and Trade-marks reported progress, and asked to be continued for another year.

The Committee on Davis Memorial asked for an appropriation of \$5,000 on behalf of the Association.

The Committee on the Uniform Regulation of Membership submitted a lengthy report, tabulating the replies received from all of the state secretaries in answer to inquiries regarding the provision of their by-laws and the methods employed in regulating membership in each of the state societies. After summarizing the reports received, the committee stated that the present lack of uniformity and system in the regulation of membership is costing the organized profession of the country thousands of dollars each year in the form of postage, clerk hire, stenographers' salaries, etc., in carrying on unnecessary correspondence, and stated that if a uniform general system were adopted by all county and state societies as well as the American Medical Association, it would result in an enormous saving of time and labor and consequently, of expense, to the organization. The committee recommended that all state associations be requested to make their fiscal year conform to the calendar year and to instruct their component county societies to adopt the same rule. The committee also further recommended that it be continued and that it be increased by the addition of four state secretaries; also, that it be instructed to draft uniform by-laws for the regulation of membership for state and county societies, as well as to devise a system of necessary blanks and forms applicable for general use. The report also stated that the question of membership qualification as well as that of procedure in the case of discipline had been brought to the attention of the committee, but that nothing had been done with them beyond the collection and tabulation of facts thereon.

After the presentation of a number of communications, resolutions, etc., which were referred to the appropriate committees, the House adjourned until Tuesday afternoon.

At the third meeting of the House, a supplementary report from the Board of Trustees was presented, approving the recommendation of the Committee on Scientific Research regarding the grants and awards made by the Committee.

The Reference Committee on Medical Education reported, strongly endorsing the work of the Council on Medical Education and recommending the report of the Council to the careful attention of all members and especially to medical educators.

After the report of the Committee on Scientific Exhibit, the report of the Subcommittee on Medical Legislation appointed to raise funds for the relief of the widow of Major Carroll was presented, showing that since January 18, 1909, \$6,267.84 have been subscribed for this purpose, leaving \$1,449.18 still to be raised.

The Reference Committee on Reports of Officers recommended the addition of two amendments to the By-laws in order to carry out the suggestion of President Burrell. The Committee also recommended that the Trustees be given full authority to proceed with the erection of the new building. Both of these recommendations were adopted.

The Reference Committee on Miscellaneous Business recommended that the Association appropriate the sum of \$5,000 for the Davis Memorial fund, provided that the additional sum of

\$20,000 be collected for this purpose within three years.

The Council on Defense of Medical Research reported that its work during the past year had been carried on along the lines: first, investigating the actual conditions of animal experimentation in the United States and the opposition to it; second, taking precautions against the abuse of animal experimentation and against misconceptions of the conditions and purposes of medical research; third, diffusing information regarding laboratory procedures and the results of laboratory study of disease.

At the fourth meeting of the House of Delegates, the report of the Committee on Sections and Section Work, changing the name of the Section of Cutaneous Medicine and Surgery to the Section on Dermatology, and that of the Section on Surgery and Anatomy to the Section on Surgery, was adopted. The committee also recommended the appointment by the President of a special committee on anesthesia, comprising one member from each of the following sections: Surgery, Obstetrics and Gynecology, Practice of Medicine, Ophthalmology, Pharmacology and Therapeutics. The committee further recommended that a Section on Urology and Venereal Diseases be created whenever one hundred members of the Association petition for the organization of such a section. These recommendations were adopted.

The Reference Committee on Legislation and Political Action emphasized the importance of the movement for the organization of a National Public Health Department as well as the adoption of the proposed amendment of the national food and drugs act prohibiting the use of benzoate of soda as well as other preservatives in the preparation and preservation of foods for interstate commerce. The committee also endorsed the provision for a general conference to be devoted to a discussion of the essentials of a uniform medical practice act.

The Reference Committee on Reports of Officers presented a supplementary report endorsing the recommendation of President Gorgas in his address before the General Session toward the erection in the national capitol of a monument to medical officers who gave up their lives during the War of the Rebellion, and recommended the appointment of a committee for this purpose.

The report of the Director of Postgraduate Study showed that 200 county societies were now carrying on the postgraduate work, this number being double that of last year, 85 per cent. of the societies which followed the course last year having taken it up again this year.

The Committee on Triennial Reapportionment submitted a report showing the apportionments of members of the House of Delegates among the various constituent state associations for 1910-11-12. The report shows no changes in apportionment in 40 states, with increase in the following cases: Illinois, 7 to 9; Kentucky, 3 to 4; Missouri, 4 to 5; Ohio, 6 to 7; Pennsylvania, 8 to 9; Tennessee, 2 to 3; Washington, 1 to 2; West Virginia, 1 to 2; a total increase of 9. In three states the number of delegates was decreased as follows: Kansas, 3 to 2; Michigan, 4 to 3; North Carolina, 3 to 2, making a net gain

over the apportionment of 1906 of six delegates. The composition of the House of Delegates for the next three years will be:

Members from the constituent State Associations	133
Delegates from the Sections of the American Medical Association..	12
Representatives of Government Medical Services	3
Total.....	148

Dr. A. T. McCormack, of Kentucky, presented an amendment to the constitution authorizing the House of Delegates to arrange for the recognition of constituent associations lying outside of, but adjacent to the United States. Under the rules, it was ordered to lie over until next year.

The fifth and final meeting of the House of Delegates was held on Thursday afternoon, the first order of business being the election of officers. The following officers were nominated, balloted for, and duly declared elected:

President—Dr. William H. Welch, Baltimore, Md.

First Vice-President—Dr. Robert Wilson, Charleston S. C.

Second Vice-President—Dr. Charles J. Kipp, Newark, N. J.

Third Vice-President—Dr. Alexander Lambert, New York City.

Fourth Vice-President—Dr. Stanley P. Black, Pasadena, Cal.

General Secretary—Dr. George H. Simmons, Chicago, Ill. (re-elected).

Treasurer—Dr. Frank Billings, Chicago, Ill. (re-elected).

Trustees—Dr. C. E. Cantrell, Greenville, Texas (to take the place of Dr. T. J. Happel, deceased); Dr. M. L. Harris, Chicago, Ill. (re-elected); Dr. C. A. Daugherty, South Bend, Ind.; Dr. William T. Councilman, Boston, Mass.

Following the appointment of committees and the election of associate members, the Reference Committee on Sections and Section Work, submitted a supplementary report recommending that the name of the Section on Hygiene and Sanitary Science be changed to that of the Section on Preventive Medicine and Public Health. The report, with its recommendation, was adopted.

The Committee on Transportation and Place of Session reported that invitations had been received from St. Louis, Missouri, and Los Angeles, California, and referred the matter to the House of Delegates for decision. On balloting, St. Louis was selected as the place for holding the next annual session.

After the presentation of a number of supplementary reports, resolutions, et., the House of Delegates adjourned *sine die*.

In severe falls or blows or fracture of the pelvis, catheterize the patient as soon after the injury as possible in order to discover a possible rupture of the bladder.

—Exchange.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

DAMAGE TO EYES FROM CALENDERED PAPER.

Why medical men continue to publish journals on high calendered paper is hard to figure out. They, of all people, ought to know better. Occasionally a layman sees the point as is evinced by the following criticism (Everyman, p. 29, Jan., 1909) of a book done on such paper. A criticism which shows the utter needlessness of this constant insult to our eyes. "Very neatly is it printed and bound—but on smooth paper! And the price of spectacles going up—and I with a consuming desire not to use 'em anyway—and half the world going blind, and the other half driven to the oculists, all because a few thoughtless people print books and things that some of us want to read, on calendered paper! Can't a few of you slow-headed people get it into your cocoanuts somehow that calendered paper is neither commonsense nor art—nor necessary? Machine-finished paper will print a half-tone—if it must be printed—about as good as the calendered paper, and from the former there is no glint and no strabismus of the eye—or whatever they call it. Ruff paper (laid or egg-shell) is the proper thing to print type on—now don't let me have to tell you again. The half-tone illustration is not art, but purely a mechanical thing, cheap and commercial to the last degree. But if you must print it use machine-finish rather than the glinting and blinding calendered papers. And they are making a dull-surfaced clay-coated paper now that will print the finest screened half-tones."

PROGNOSIS IN TETANUS.

In discussion at the West. Surg. Society (reported Bost. Med. and Surg. Jour., Feb. 11, 1909), Dr. Mayo said that the incubation period is the main thing in considering these cases. If we took the cases of tetanus that began within seven or eight days, we lost 80% of them, whereas of those cases that did not begin until after the tenth or twelfth day, we would save 80% of them. So it made a lot of difference.

APOMORPHINE.

In the New York Medical Journal, M. F. Simpson relates a personal experience with this drug. He injected 1-10 grain hypodermically; half an hour later a peculiar "all-gone" feeling commenced. The arms became heavy, muscular force throughout the body was paralyzed, vomiting and

catharsis continued for an hour. He fell and could not rise, the neck muscles refused to support the head, the jaw dropped and saliva dribbled. During most of the time the mind was clear, but for a few seconds a mental hebetude would occur. The arterial pressure seemed to the victim to be normal, muscular relaxation continued, and he fell asleep, awakening next morning. The muscular relaxation was discernible for twenty-four hours. He was credited with an idiosyncrasy.

[Such unpleasant effects can be avoided by guarding the apomorphine with strychnine. It is also wise when desiring only sedative effect in a patient, whose personal equation is unknown, to start with not to exceed 1-20 grain of the drug. Usually 1-30 or 1-40 grain will produce the desired result. Particularly is this true when the patient has received a dose of morphine which has not acted as a sedative.—Ed.]

THE DIAGNOSIS AND TREATMENT OF THE MORE COMMON DISEASES OF THE SKIN.

Cocks (Medical Record, March 28, 1908, p. 518), says: Impetigo contagiosa, pemphigus neonatorum, and a pustular syphilide are three diseases of early childhood that are not, according to the writer, clearly defined in the minds of the general practitioner. He says pemphigus neonatorum is not always a syphilitic manifestation. The lesion is a bulla, not a vesicle as in impetigo contagiosa, and there are only slight, if any, areolæ. The contents of the bullæ in syphilitic pemphigus are always pustular. It attacks the fingers in preference to the palm.

In differentiating eczema from intertrigo he points out that the discharge from eczema stiffens linen, while in intertrigo it does not. The erythema of intertrigo is deeper in the folds and fades to the periphery, and the reverse is true in eczema.

The following outlines of treatment are recommended:

For scabies in children: \mathcal{R} Bals. Peru., \mathfrak{z} ii; Prec. Sulphur, \mathfrak{z} i; Rosewater ointment, \mathfrak{z} iii, to be applied twice a day.

For impetigo, peroxide of hydrogen to the base of the lesion, followed by a 5 per cent. ammoniated mercury ointment.

For the pustular syphilid, lotio nigra externally, and internally mercury and chalk. Care of the nutrition is vital.

For intertrigo, removal of the cause, and applications of: *R Magnesiæ carb.*, \mathfrak{Jii} ; *Zinci oxide*, \mathfrak{Jii} ; *Aquæ rosæ*, \mathfrak{Jiv} .—(*Via Arch. Ped.*).

A SIMPLE MEANS OF FURNISHING FRESH AIR TO PNEUMONIA PATIENTS.

Harwood (*Jour. Minn. State Med.*, Jan. 15, 1909, p. 54) describes the following simple device:

"During the winter months I have furnished fresh air to my pneumonia cases by means of a six-inch stovepipe. A piece of sheet iron takes the place of the panes of glass removed from the sash; a hole the size of the pipe is cut in the iron, and the required number of lengths of pipe are added 'o reach the bedside. A piece of cheesecloth is placed over the end of the pipe to divide the current, and a damper placed in the pipe to regulate the amount.

"If the window has only two panes (one pane to a sash), one of the sashes can be raised or lowered, and a board with the proper-sized hole cut in it takes the place of the sheet-iron for the smaller panes.

"I have satisfactorily treated pneumonia with fresh air for several years. The amount of fresh air obtainable through the pipe is the limit of toleration by the family and neighbors at the present time."

TREATMENT OF PERNICIOUS ANEMIA WITH GLYCERIN.

Vetlesen (*Norsk Magazine for Laegenidenskaben*, Dec., 1909) has been applying the observations of Tallquists researches (which showed that the nemolitic agent in bothriocephalus anemia was oleic acid, and that with it glycerin formed a harmless substance, oleate of glyceryl) to clinical cases. He reports a case of progressive pernicious anemia with hemoglobin, 40 per cent, and only 1,100,000 red corpuscles, in which after failure of other measures he gave the patient a table-spoonful of glycerin, with a little lemonade, three times a day. In the course of five months of this glycerin treatment alone the hemoglobin increased to 100 per cent and the number of reds to 4,400,000, while the patient gained about 25 pounds in weight. Vetlesen concludes that the favorable results sometimes observed in pernicious anemia from the treatment with bone marrow extract may have been in reality due to the glycerin vehicle.—*Via J. A. M. A.*

DIET FOR SCARLET FEVER PATIENTS.

The value of milk diets and chlorine-free diets in cases of nephritis is known. Some physicians

have been led to abandon the exclusive milk diet to give chlorine-free diet to scarlet fever patients and have found that this gives the patient strength while not burdening the kidney.

"The following diet is a compromise of various views and is suitable for the average case of a non-albuminuric scarlet fever:

"(a) During the first four or five days when the patient is under the full sway of the disease and has no desire for solid food, a milk diet should be maintained. From one-half to two litres should be given daily, according to age, and in the intervals the patient may have sour drinks such as lemonades, grape juice, etc.

"(b) After the fifth or sixth day we retain the milk as a beverage and add to it soups, eggs, without salt, and, later, vegetable pastes, purees and meat without salt. This salt-free diet should be continued until the end of the third week of the disease, when we should begin to add salt gradually until the end of the sixth week, when the patient can eat what he likes."—*American Journal Derm.*

TREATMENT OF DIABETIC PATIENTS.

Galloway outlines the following treatment for diabetics (*American Jour. Derm.*, May, 1909, p. 217):

"The active practitioner realizes that prevailing treatments have not given very satisfactory results and is apt to regard one fact as worth many theories. During the past ten years the following method of treatment has proved satisfactory.

"Diet—Diabetic patients are not restricted in general diet. They eat three well cooked meals each day, of such variety of food as may come on their tables, together with fruits and vegetables in season.

"Fickle appetites usually improve under the treatment. The disease is exhaustive, hence the patient is fed. Alcohol and tobacco are prohibited.

"Hygiene—Mental and physical rest is enjoined. Regular hours and habits are required. Work, worry and excitement prohibited.

"Drugs—Iodide of potassium is relied upon and saccharine is added to cover its brackish taste. An aqueous solution, containing eight or ten grains to each dose, is given every four hours during the day until the sp. gr. of the urine falls to about 1020, and the sugar has about disappeared. At this point the treatment is temporarily suspended, as iodism may be expected. When the sp. gr. rises and sugar appears again, the treatment is resumed. Thus the treatment is

administered or suspended with the remissions or exacerbations determined by urinalysis. Complications arising are treated on their merits.

"This treatment, faithfully carried out for twelve to eighteen consecutive months, has given satisfactory and lasting results—even old chronic cases have been much relieved."

INEBRIATES.

DeJarnette (Virg. Med. Semi-Monthly, April 23, 1909, p. 37), calls attention to the importance of feeding too often overlooked in the treatment of inebriates. He says:

"In the treatment of these cases I believe in hot baths at a temperature of 105 to 110 degrees, lasting for half an hour at a time, and given from two to four times daily. Internally, I give strychnine three times daily, from a thirtieth to a sixtieth of a grain, with abundance of milk, soups, eggs, etc., and the patient is encouraged to drink as much water as possible. This treatment has given me perfect satisfaction, and the immediate effects of the liquor or drug usually pass off in from one to three days.

"Except in an unusually weakened condition, I immediately withdraw all whiskey, and in the case of drug habitues, all drugs. I do this in nine out of ten cases."

PROPHYLAXIS OF GONORRHEA.

Ross (Monthly Cycloped. and Med. Bul., April, 1909, p. 237) sets forth the following dicta:

"The gonococcus is not a motile germ, and certainly cannot make its way from the vagina into the male urethra during coitus. Infecting a coccus free urethra with gonococci from culture produces typical gonorrhoea in from twenty-four to forty-eight hours. Infection after coitus rarely takes place under five days, and, in the majority of cases, between five and seven days.

"During coitus the dorsum of the penis acts much the same as the examining finger, stroking out quantities of pus from the female urethra. This pus mixing with the residual pus in the vagina, and rendered more viscid by the glandular secretions during sexual excitement, is deposited upon the hairy portion of the penipubic region. The scrotum, which is in immediate contact with the perineum receives the bulk of the material.

"After coitus the usual incomplete prophylactic measures are resorted to; the penis is washed with any of the numerous washes, injections are taken and internal medication resorted to. The hairy regions being neglected, the pus cells (con-

taining the gonococci) and mucus are rubbed off onto the underwear or trousers, from there to the glans penis where they gain entrance into the urethra.

"This may be a day or days, owing to the vitality of the germ, or the amount of nourishment in the pus cell.

"The non-erectile condition of the penis with the consequent resting of the glans against the hairy portion of the scrotum also leaves the way clear for the gonococci to enter the urethra.

It can readily be seen that the simple asepsis of the penis alone, and all the other medication is absolutely useless unless the hairy regions around the pubes and scrotum are thoroughly cleansed. Asepsis of the entire sexual regions will absolutely prevent gonorrhoea."

[Ross supports his views by citing cases where acute gonorrheal urethritis has followed eight and nine days after coitus with use of a "condum." We are inclined to think that though of undoubted value, the "asepsis" advocated will not guarantee non-infection after a "suspicious" intercourse.—Ed.]

ADENOIDS AND IMPAIRED HEARING.

The neglect of adenoids by many physicians can be explained only by ignorance of the far-reaching damage done by these growths.

Cohn (Zeitschrift f. Obrenheilkunde, Vol. LII., p. 246). As an argument for the establishment of exact examination of the nose, throat, and ears in school children, the author gives the result of his investigations in 1,573 cases. The number of cases in which adenoid vegetations could be regarded as the causative factor in the impairment of hearing in all the cases considered amounted to about 52 per cent., and the author lays stress upon the importance of a preliminary examination of all school children, both objectively and by hearing tests, at their entrance upon school life, as well as at later stated intervals, and gives the Bezold estimate of 2 meters, for the whispered voice, as the lowest acceptable standard.

Frankhauser (Penn. Med. Jour., April, 1909, p. 513), says: "I am not in a position to give statistics, but my opinion is that more than eighty per cent. of the catarrhal deafness is caused by the neglect of this diseased condition in early life.

The general practitioner has the opportunity of seeing the children of a family with mouths open; he often sees them during an attack of sore throat, which is an acute attack of inflammation of the tonsils or the adenoid tissues. Immediately after this attack is the time when those diseased

conditions should be treated, either by the general practitioner or by the rhinologist.

If this is done early, then the otologist has very little that he can do. I think that the medical profession does not need more specialists, but better educated and better trained practitioners. It is the family physician who is in the position to see, to prevent, and cure many of the diseases that are referred to the otologist too late to give any beneficial results from any course of treatment."

And impaired hearing is but *one* of the *many* evils resulting from neglected adenoid obstructions!!

ASPHYXIATION FROM GASOLINE FUMES.

Wilson (J. A. M. A., May 8, 1909, p. 1494) reports three cases of asphyxiation occurring in operators of gasoline engines. The attack began with dizziness, often followed by unconsciousness. "There was marked pallor and body was covered with cold perspiration. The breathing was slightly stertorous. The eyes were closed, the pupils slightly dilated. The pulse remained full, regular and at normal rate. The patient winced on pressure at the supraorbital notch, but remained unconscious for five hours. He felt weak and had a splitting headache for a day after; also nausea and vertigo for two days after."

Where not over-taken by unconsciousness the patients had great difficulty in reaching the open air and suffered with "marked headache and vertigo some time after." Gasoline engines are now so commonly used throughout the country and on the farms that this condition is liable to be met with at any time and place.

BOOK REVIEWS

SURGICAL MEMOIRS AND OTHER ESSAYS. By James G. Mumford, M. D. Illustrated. New York: Moffat, Yard & Company. 1908.

A collection of very readable essays on surgeons and surgical achievements in days gone by such as every broadminded physician should familiarize himself with. The lives and works of our forbears should stimulate us to emulation; familiarity with what was taught and believed in former times will aid us to appreciate the remarkable advances of the present age.

Dr. Mumford has the happy faculty of presenting his subjects in an attractive style and drawing practical and interesting comparisons. The essays on American surgery, Jacob Bige-

low, and Medicine One Hundred Years Ago, are particularly interesting to American readers.

The book is handsomely mounted and illustrated by 12 fine portraits.

DISEASES OF THE GENITO-URINARY ORGANS OF THE KIDNEYS. Robert Holmes Green, A. M., M. D., Professor of Genito-Urinary Surgery, Medical Department of Fordham University; Genito-Urinary Surgeon to the City and French Hospitals, New York City; and Harlow Brooks, A. M., M. D., Assistant Professor of Pathological Anatomy, New York and Bellevue Hospital Medical School; Visiting Physician to the City Hospital, New York City. W. B. Saunders & Co., Philadelphia.

As a reviewer has stated elsewhere, this publication adds nothing to medical literature, being a collection of incomplete principles emphasized without regard to their importance and occasional exploitations of unsound surgery. The authors state in their prefatory note that the work is intended for the general practitioner, yet one hundred or more pages are devoted to cystoscopy, endoscopy and the surgery of the entire genito-urinary tract, a field into which the general practitioner of sound judgment would scarcely venture.

However, in justice it must be said, that the medical aspects of the subject are more thoroughly discussed than the surgical. Physically, the work is not up to the usual high Saunderson's standard, the illustrations are neither artistic or diagrammatic and are arranged without regard to the text.

INTERNATIONAL CLINICS. Volume I, Nineteenth series. J. B. Lippincott Co. This volume contains some excellent additions to current literature, of which we can barely name a few, owing to lack of space.

The initial article, by Flick, is especially timely; so much is being done at present for the incipient cases of tuberculosis that the advanced cases are too often neglected. The importance of sanatorium treatment of these is ably presented by the essayist.

Landouzy on typhacillosis describes an interesting type of tubercular infection that is not common, but should receive more attention; its chief interest lies in the diagnosis and prognosis.

Wilmoth draws attention to extrinsic factors complicating operative work, i. e., extrinsic as far as the surgical condition is concerned, but which may have a great influence in the recovery or lack of it after the operation.

In the special department several interesting articles appeal to gynecologists, genito-urinary surgeons, proctologists, dermatologists, etc.

In the department of Progress of Medicine in 1908, Stevens and Edsall, of Philadelphia, and Bloodgood, of Baltimore, each presents a resumé of the more important advances made in Treatment, Medicine and Surgery. These are condensed descriptions of the newer developments and are a very valuable feature.

The text is handsomely illustrated by excellent plates.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. 1909. Twenty-seventh year. E. B. Treat Co., New York City.

The appearance for the twenty-seventh year of this work is strong evidence of the value of its predecessors, and this year's product is well calculated to keep up the popularity of this series. The subjects are conveniently arranged in alphabetical order, and important improvements and developments all along the various lines are briefly but lucidly touched upon. It is an extremely practical and convenient work of reference to be kept within ready reach for frequent consultation.

It is well illustrated throughout, but the plates illustrating nasal accessory sinus suppuration, etc., should be especially mentioned.

ORTHOPEDIC SURGERY FOR PRACTITIONERS. By Henry Ling Taylor, M. D., Professor of Orthopedic Surgery and Attending Surgeon, New York Post-Graduate Medical School and Hospital; Assistant Surgeon, Hospital for the Ruptured and Crippled Children, New York. With two hundred and fifty-four illustrations. New York and London. Price, \$4.00. D. Appleton and Company.

This volume gives an outline of the essential facts in regard to deformations and crippling affections of children, and is particularly devoted to the early diagnosis, prevention and treatment of the conditions.

The division of the book in general, special and technical parts, makes it convenient for ready reference. The arrangement is clear and concise, and the illustrations numerous. The work is founded on twenty-five years' experience in orthopedic practice, and the author gives what he believes the general practitioner most needs. Many methods are described, and the illustrations taken from life should be of material assistance in helping the practitioner to diagnose and treat a class of patients whom he has hitherto been unable to handle in a satisfactory manner.

THE POPES AND SCIENCE. The Story of the Papal Relations to Science from the Middle Ages Down to the Nineteenth Century. By James J. Walsh, M. D., Ph. D., LL. D. 400 pp. Price, \$2.00 net; postage, 15 cents extra. Fordham University Press, N. Y. City office, 110 West 74th Street.

In the above named work, Dr. Walsh has certainly made a strong case, and one which shows the necessity of more thorough investigation before accepting popular impressions of history. Many an idea becomes current through one writer quoting another without investigating the verity of the statements quoted. This is frequently seen in medical works and is a practice that should be discontinued wherever possible.

In bringing out so completely the original text of the famous bulls of Popes Boniface VIII, and John XXII, and showing the status of the practice of dissection and of chemical study following the promulgation of these bulls, the author seems to have established his arguments beyond confutation.

The subject is presented in a most scholarly and lucid manner, and the book will prove an extremely interesting and important addition to our literature.

A REMINISCENCE OF P. S. CONNER.

During the Civil War Dr. Conner had charge of a hospital in Washington, of 2200 beds, quite a responsible position for one so young as he then was. It was the custom of the kind, but misguided, ladies of Washington to bring the sick soldiers various dainties to eat which soon began to influence the mortality rate. Orders were given to stop this. One lady insisted in overstepping these orders and left her dainties anyhow. They were removed from the wards according to orders, and thereupon she demanded of Dr. Conner why her gifts were kept from the soldiers. He replied that such were the orders and they must be obeyed. She drew herself up and said, "You seem to be unaware who I am. I am Mrs. President Lincoln." Dr. Conner, on his metal also, drew himself up and said, "You do not seem to be aware who I am. I am the commandant of this hospital and my orders must be obeyed." She left in high dudgeon and said that she would see the president. She probably did, for it was not long until Dr. Conner was transferred to the field to a much less important position.

E. S. McKEE.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKEE, M. D., Collaborator.

J. L. Tuechter, Cincinnati, read a paper before the Cincinnati Academy of Medicine on "The Cutaneous Tuberculin Reaction in Infants," May 17, 1909, of which the following is an abstract:

In applying the cutaneous test it is necessary to fully appreciate its exact value, and to have clearly defined those conditions in which we may or may not expect a positive reaction and the reasons for the same.

In regard to the method the best results are obtained by using a specially prepared vaccinating lance, the point of which has the form of a small chisel about one-tenth of an inch in width. By twirling this we obtain small superficial circular scarifications of uniform size, and in this way we are the better able to determine any variation from the control. It is advisable to twirl the instrument within the drops of tuberculin rather than applying the tuberculin after making the scarification. The arm should be cleansed only with ether, as water and alcohol may cause the tuberculin to flow. The reaction, if positive, usually appears within twelve to twenty-four hours and consists of a sharply circumscribed indurated papule about one-fourth to one-third inches in diameter.

There are certain conditions in which the reaction does not take place, namely in (1) miliary tuberculosis, (2) the cachectic period of the last stages of tuberculosis, (3) directly following the injection of large doses of tuberculin, and (4) for a certain period during measles beginning with the exanthem and lasting for about a week. In these cases we have an absence of the antibodies or amboceptors which cause the reaction between the tuberculin and the cell. In some cases of latent tuberculosis the reaction may be delayed for a few days and then appear. This is called a torpid reaction. Some cases only respond to a second application, this being known as a secondary reaction, and is due to an increased sensitiveness caused by the first application.

The test is extremely sensitive as is shown by the fact that from 80 to 90 per cent of adults will respond to it in some form, either primarily or secondarily. For this reason in an adult it has practically no value other than merely betraying the presence of a tubercular focus somewhere in the body, and it does not tell us whether this focus is active or latent. In an adult only a

severe reaction with marked infiltration, which appears promptly and persists for a long time, and this in connection with a suspicious disease, speaks for the tuberculous nature of the latter. In young children the percentage of positive reaction becomes much less frequent and the nearer we come to infancy, the more does the probability arise that the reaction is due to an active focus of tuberculosis, and therefore it is in the first three to four years of life that the test carries with its greatest practical significance. A failure to react to the test after repeated application of tuberculin, proves that the individual is free from tuberculosis. In infancy nearly all infected children react at first application and here a negative response is especially valuable.

The prognostic value of the test is limited. In infancy a positive reaction carries with it a grave prognosis, as so many of the cases of tuberculosis at this age prove fatal. In view of the fact that the reaction is absent in the latter stages of tuberculosis, a bad prognosis is suggested by this negative phase. The cutaneous reaction may come to be used as a means of control in specific tuberculin medication and some observers consider as actually cured, only such cases as fail to react to tuberculin.

The various other tuberculin tests are not as well adapted for use in young children as the cutaneous reaction. The fever reaction of Koch has a very limited application here, since active tuberculosis at this age is usually accompanied by fever, and furthermore, young children have rises of temperature from so many other causes whereby misleading results may be obtained. The conjunctival reaction should never be employed in children, as it is not free from danger and presents no advantages. The Stich reaction is more sensitive than the cutaneous, but somewhat more difficult to carry out. The inunction test is easy of application and quite harmless, but the results generally have been somewhat less reliable than those with other tests. With the Detre method we may be able to differentiate the type of infection and thus give us some indication as to the kind of specific medication. The cutaneous reaction furnishes one of the most reliable means of diagnosis of tuberculosis in infancy and early childhood and very often it is the only means we have of making this diagnosis because of the lack of physical signs at this age. It gradually loses its importance after the fourth year of life. The method is easily applied, is absolutely harmless, needs no watching and presents no inconvenience to the patient.

F. M. Pottinger, of Monrovia, California, addressed the Academy of Medicine of Cincinnati on May 31 on the subject, "Early Diagnosis of Tuberculosis." Dr. Pottinger, who is an authority on tuberculosis, and conducts a large sanitarium for the treatment of this disease, graduated in medicine in Cincinnati and has many friends here. The members of the Academy turned out in full force and some doctors came from neighboring towns. Dr. Pottinger thought that the early diagnosis depended largely on the general practitioner. If diagnosed early and the proper treatment applied the disease is curable. The patient should be instructed how to care for himself and taught to prevent the spreading of the disease. From carelessness of patients it is found that for every one affected with the disease at least one is infected. The medical profession has at hand ample means for the early diagnosis of this disease and should avail itself of it. Dr. Pottinger was given a dinner by some members of the Cincinnati profession and the Academy gave a luncheon in his honor.

In the course of his paper Dr. Pottinger said that there was a time in every case of tuberculosis when it can be cured. It is the duty of the medical profession to be able to discover the disease at this time. We must have a knowledge of the early symptoms and signs and to devote a sufficient time in examining the patient, stripped. A rundown condition is often the first symptom. This may yield temporarily to rest and proper medication. Patients who suffer from frequent protracted colds, winter coughs, should have their chests examined. A tiring between the shoulders, a pain or dull ache between the scapula, extending out into the shoulder of the affected side is often an early symptom of tuberculosis. Latent tuberculosis is often excited into activity through some other disease. Pleurisy either with or without effusion, is nearly always tubercular. An important matter is the taking of the temperature every two hours for the whole day. This will often show a slight elevation of the temperature may be but a fraction of a degree some time during the day. A subnormal temperature is sometimes found when the disease is quiescent. An important early sign is muscular rigidity, a spasm of muscle over the areas of infiltration, caused by the irritation transmitted to the muscle from the inflamed areas in the lung. In incipient typical tuberculosis this rigidity can be readily detected by palpating the muscles and when the process is in a state of activity these muscles often stand out, making that apex seem much fuller than that of the other side. Lagging of the

affected side under inspiration is a sign of early diagnosis. He has used tuberculin hypodermically for fifteen years and considers it of much value. von Pirquet's skin test he has found valuable and wholly without danger. He maintains that the disease can be diagnosed in the great majority of cases before the advent of bacilli in the sputum, yet all patients do not present themselves to the physician early. In the interests of the patient we should insist on the examination of the sputum, however slight.

The Adams County Medical Society met Wednesday, June 9, at West Union, Ohio. The program was as follows: Miscellaneous business; "Some Interesting Cases," G. F. Thomas, Peebles; annual election of officers; "Renal Calculus," O. B. Kirkpatrick, Cherry Fork; "Five Hundred Obstetrical Cases," O. T. Sproull, West Union.

The Brown County Medical Society met Wednesday, May 26. Program: Social greetings; opening and business meeting; presentation of cases; paper—"Report of Case of Tuberculosis of the Genitals," L. H. Leonard; talk—"Flat Foot and its Consequences," Robt. Carothers, Cincinnati; paper—"Some thoughts on "Summer Complaint in Children," R. B. Sheldon.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

G. E. Martin, of Anna, read an excellent paper on the diarrheas of infancy. The essayist drew attention to the common beliefs as to the relation of diet and hot weather as causative factors, showing that the latter especially is predisposing only, and laying stress upon the need of greater attention being paid to the bacillus of Shigu (b. dysenteriae) as a causative agent in the more severe forms.

1. The infection with the B. Dysenteriae occurs under quite a wide variety of conditions. It is seen in breast fed infants as well as in those artificially fed.

2. It occurs (a) as an acute primary infection in children previously well; (b) as a sub-acute infection without previous acute symptoms; (c) coincident with or following other acute diseases such as measles, pneumonia, etc.; (d) it is often seen as a terminal infection in children suffering from malnutrition or marasmus.

3. It occurs as a mild intestinal disorder with few symptoms, and these hardly more marked

than those belonging to intestinal indigestion; also with local symptoms of considerable severity, yet with very little fever or constitutional depression, and finally in its most severe form with both local and constitutional symptoms of great severity.

4. It is not a disease of any one locality, having been seen with great and about equal frequency in all the large cities where investigations were carried on; the only variation in type being that in the warmer cities, the proportion of severe acute cases was rather large. Nor is the disease one of tenements and hospitals, a number of cases observed being in children living in the best surroundings, even in the country. In its prevalence it appears to be as wide spread as are diarrheal diseases.

No especial relation of the infection to foods or water has been discovered. Other bacteria may also be active in intestinal disturbances, as primary and secondary infections.

The essayist divided diarrheas into toxic and inflammatory types; the former being gastric or intestinal indigestion due to improper foods, fermentation, etc., yielding easily under proper treatment. The inflammatory are infections, and include the variously named conditions, ileocolitis, entero-colitis, etc.

The essayist then detailed comprehensively the symptoms of the above types, giving particular attention to the inflammatory forms, in which he followed Holt's classification, viz., (1) Catarrhal cases of moderate severity; (2) severe catarrhal cases; (3) follicular ulceration or ulcerative inflammation of lymph nodes; (4) membranous forms, giving the characteristics of each.

He quoted Knox's deductions from the character of the stools in part as follows:

No mucus macroscopically, only moderate congestion of mucosa, no ulceration. Small amount of mucus perceptible to the naked eye with even small scattered particles of blood, somewhat greater congestion—no ulceration; though very rarely there may be some infiltration and ulceration of small bowel and slight thickening of mucosa of colon.

As mucus increases, possibility of ulceration increases. The only definite deduction being that the absence of mucus precludes serious intestinal lesion.

Similarly the presence of visible blood indicates involvement in proportion to the amount, usually indicating ulceration and thickening. The absence of blood does not preclude well marked lesions.

Pus, when present in visible amounts, indicates considerable involvement of the mucous membrane, but its absence does not preclude serious pathological changes.

Treatment.—The essayist reviewed the various methods advised, emphasizing, however, careful hygienic measures, baths, etc., with cleansing of the intestinal canal by calomel, oil, etc., colonic washing, and withholding of food for a time—twenty-four hours, at least. As to drugs, he recommended the use of large doses of bismuth subnitrate, 60 to 120 gr. in the twenty-four hours with some of the ordinary intestinal antiseptics, if desired.

Opiates should be used sparingly, and brandy, strychnin, digitalin, atropin given as indicated.

The results of specific serum he regarded as uncertain as yet, and thus far of advantage mainly when administered early.

The Montgomery County Medical Society met at Dayton, Friday, evening, June 4. The program was as follows: "A Method of Producing a Clean, Safe Milk," Mr. Wallace C. Miller, Lebanon, O., Supt. French Bros. Certified Dairy; "The Danger of Feeding Unclean and Uninspected Milk to Infants," O. V. Huffman; "Present Conditions of Dairies Supplying Milk to Dayton," N. D. Goodhue; "An Easy Way to Properly Modify Certified Milk by any Formula," A. L. Light.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Medical Section of the Academy of Medicine of Toledo and Lucas County met in regular session May 21.

A case report by Harry S. Wagner, of Denver, Colo., was read by R. S. Walker.

Harry W. Dachtler read a paper on "The Roentgen Ray in the Diagnosis of Pulmonary Tuberculosis," illustrated by plates.

Dr. Dachtler said in part:

The Roentgen method was early applied to the examination of the thorax. In October, 1908, Williams, of Boston, reported upon the examination of forty cases of pulmonary tuberculosis, and stated that the method was of value in determining the extent of the disease and that its use revealed the existence of diseased areas that had not been found by ordinary methods.

From that time many observers have been studying the thoracic organs and additional information has been acquired regarding them, both in normal and pathological conditions. As this paper deals only with pulmonary tuberculosis, no mention will be made of other condi-

tions except when necessary to explain what may be seen on the plates exhibited.

One of the early questions arising in studying these cases was to the relative value of the Roentgenoscopic and Roentgenographic methods.

At present the controversy can be summed up by the statement that both methods are necessary in many cases. During the earlier years when exposures necessary to secure properly exposed plates were long and the lungs could not remain at absolute rest the Roentgenograph gave but little information, except in advanced cases. Im-mobility is essential in all Roentgenographic work, the lungs being no exception to this rule. For this reason and also because the movement of the organs could be studied the screen was preferred.

By the use of efficient screening and diaphragming apparatus and by having the observers eyes at rest, the screen examination is very satisfactory.

With the screen the difference between the transparency of the lungs during inspiration and expiration could be noted, also any slight differences between the two lungs. This last is of special values in studying the apices. Normally the right apex is seen to be slightly more opaque than the left, perhaps due to increased muscular development. In quiet breathing the apices do not always clear up on inspiration even in normal individuals. Forced inspiration will clear them, however, unless some pathological condition is present. If they do not respond they should be studied for evidences of infiltration by means of the Roentgenographic method.

When one considers that normal inflated lung tissue, 12 cm. thick is an transparent as a layer of water, 1 cm. in thickness, it is easy to realize that catarrhal conditions have a marked influence on the transparency of lung tissue.

Krause's statement at the international congress on tuberculosis last year that pure catarrhal processes are not recognizable by this method is not borne out by the observations of most observers. However, a great deal does depend upon the distribution of the process as it is by comparison that it is demonstrable. If the condition is symmetrically distributed, its recognition by this method is impossible.

While these differences in density require rather an exacting technique of tube illumination and control for their study there are other important features easily ascertained by this method. Enlarged bronchial glands are clearly shown. The motion of the diaphragm can be observed and any variations from the normal accurately determined. Most observers have noted that its movement is limited on the affected side very early in the course of the disease. The contour is often changed from its normal dome shaped form and it frequently moves with a peculiar jerky motion. The size of the heart is seen at a glance. In many cases it is seen to be small and to assume a more vertical position in the chest. The hypertrophy noticed in many cases generally comes later, perhaps due to increased pulmonary resistance. With improvements in apparatus it became possible to secure Roentgenographs of such clearness and with such a short exposure that with

most operators it succeeded the older method. Without doubt slight infiltration and small uncalcified tubercles that could not be seen with the screen are visible on the plate. While all the plates shown here tonight are of a large size, it is customary to study the suspected areas by means of small plates made with the compression apparatus, by means of which much greater definition is secured over small areas. By this means it is possible to observe the extension of a tuberculous process in the bronchial glands to the surrounding tissue. In my own experience this seems to be the usual course of the disease. Personally I have never observed a case of apical tuberculosis that did not show this glandular involvement. The stereoscopic Roentgenographic method as applied at present is of doubtful value. It is almost impossible to have the patient stop breathing with the lungs in the same position for two exposures separated by a relatively long interval. We may reasonably expect that improvements now being devised will enable stereoscopic views of the entire thorax to be taken in from three to five seconds. This will insure a good stereoscopic image even in difficult cases.

In conclusion it is not claimed that by the Roentgen method alone one can make a diagnosis of tuberculosis, nor is it possible to tell whether the tuberculosis process is active or not, but by its use the extent of the process is better shown than any other way. Practically all observers have noted that the Roentgen examination shows much greater involvement than the physical signs would indicate and the exact knowledge of the extent of the involvement is of great value in making a prognosis.

Tuberculin on which we must always rely in making an early diagnosis of active tuberculosis neither gives us the location or extent of the disease. A few cases I have observed that gave physical signs of an active tuberculous lesion and in which the Roentgen examination showed extensive fibrosis of the lung did not react to tuberculin, perhaps due to an acquired immunity. In such cases the Roentgen examination may be of service in ruling out other conditions. As many cases of tuberculosis were formerly only recognized by the involvement of the apices, and as the Roentgen method has shown such cases to be an infiltration from an unrecognized bronchial gland tuberculosis, a method which gives us early knowledge of this bronchial involvement must be of distinct value.

Especially is this so when we consider that disease diaphragmed plates of these areas will show if there is infiltration in the nearby tissue. Krause in his paper stated that in important cases such a method should always be employed. To me it seems that all cases are important. There are also cases in which the physical signs are observed by associated conditions such as unphysence pleurisy with effusion, pneumothorax, etc., in which an associated tuberculosis may be overlooked in the physical examination, but recognized by this method.

Dr. Daniells read a paper on the "Physical Findings in Pulmonary Tuberculosis with X-Ray Illustrations."

Frank Ferneau read a paper on "The Mercurial Treatment of Pulmonary Tuberculosis, with a Preliminary Report on Thirty Cases at the Toledo State Hospital Treated by this Method."

Dr. Ferneau said in part:

In the American Medical Association Journal of November 28, 1908, appeared an article by Dr. Barton Lisle Wright, of the Government Hospital at Los Alamos, Colo., of a report of forty cases of tuberculosis treated by intramuscular injections of succinimid of mercury, with decided improvement in 85 per cent of all cases so treated. Such a high percentage of improvement by any method of treatment was looked upon as phenomenal by the writer and with some doubt as to the accuracy of the results. If true, verification of the above results could and should be made. With that in view, we at the State Hospital, having a number of tuberculosis patients and ideal facilities for such treatment, selected seventeen cases of the pulmonary type upon whom to make the trial. Seventy-five per cent of these patients had already been on our tuberculosis ward, in open air day and night and had been on a plain substantial diet with fresh milk and tonic medicinal treatment such as iron quinine and strychnine, hypophosphites and emulsions of cod liver oil, with fair, though not marked results.

All of these cases aside from physical signs, previous history and temperature chart, reacted to one or more of the tuberculin tests

The treatment consists of: First, outdoor life day and night, they being allowed indoors only at meal time and for toilet and bath. Second, they were given the general hospital diet and allowed to eat until through. When the nurse has given them as much milk and raw eggs as they would take. They were also given at intervals as a rest from eggs nutrole and cod liver oil.

If the evening temperature was above 100 degrees F. the superalimentation was omitted in the evening. Also when the morning temperature was above 100 degrees for forty-eight hours or more they were kept in bed.

The method of mercury injections as used by Dr. Wright and followed generally in this series of treatments is "one injection of hydrargyrum succinimidum gr. one-fifth is given every other day until thirty injections have been given. Then injections are discontinued and potassium iodide grs. three to ten after meals for two weeks, then potassium iodide is discontinued and no medicine is given for one week. Injections are then resumed as follows: One injection every other day until thirty injections have been given, on alternating injection days giving mercury succinimid gr. one-fifth, respectively. And then another rest period and gr. one-tenth mercury succinimid is given as follows:

A one and one-half in platinum needle attached to a sub q syringe had best be used, the injections being given in the gluteal region. In beginning the injections one will find that the patients will experience considerable pain and soreness in the buttocks, in fact I believe this to

be the worst feature of the succinimid treatment.

Possibly the preparations such as the cyanide would be better in private practice. However, after the first week or ten days the pain and tenderness passes away and they do not complain.

During the beginning of treatment the temperature usually but not always rises one, two or three degrees and there is a slight loss of weight. If temperature persists in rising after injections, it is usually caused by the dose being too large.

The temperature rise from the injection does not last longer than twenty-four hours. An injection should not be given with a morning temperature above 100 degrees, as they tend in high temperatures to cause a rise higher in proportion than those below that point.

After tolerance both to the injections and mercury is produced and the case begins to show improvement the evening temperature will fall to 99 degrees or lower. I have used these injections in doses ranging from gr. one-twentieth to gr. two-fifth without salivation or apparent ill effects from the mercury.

The cases that seem best suited for this treatment are those of the fibroid type with moderate temperatures, or those of mild infection. The acute types with high temperatures which show a virulent infection do not improve for the reason given above.

As to the mode of action of mercury in tuberculosis, Wright says that its effects are due to its properties of rendering the blood bactericidal and creating antibodies. But from the fact that the fibroid cases do better than those of the acute bacillary type, the writer is rather inclined to the view that it is due to the tonic action, increasing the cellular elements of the tissues. This question will not be settled, however, until some opsonic work is done in conjunction with this treatment.

In a large number of my patients the temperature has fallen. Several that were in bed when I began treatment are now up and are taking light out door exercise, appetite and weight have improved, cough and expectoration have diminished and in fact they show general improvement physically.

Whether these patients will be able to maintain the improvement already accomplished and will continue to gain in the second series, the future will determine.

At the present time I have arrived at the twenty-first day of the second series with continued good results. A careful record of temperature and weights has been kept, of which with the accompanying percentage of gain and loss will be shown by the stereopticon to far greater advantage than I am able to read it.

The Medical Section of the Academy of Medicine met April 16.

Dr. Herbert E. Smead read a paper on "Mongolian Idiocy; Its Differentiation from Cretinism."

Dr. Smead showed a patient and spoke of the unfamiliarity generally of medical men with

this condition. It presents certain points of resemblance to cretinism, but can be differentiated. The use of thyroid gland is not of any use in these conditions. Stereopticon views were shown of patients from the State Hospital at Columbus, illustrating both cretinism and Mongolian Idiocy.

Sidney D. Foster reported a case of Hypothyroidism and demonstrated the improvement in speech by phonographic records. This case was as follows:

Case of Hypo-thyroidism—Boy sixteen years old. A seven or eight month child. No difference noted in his development until two years of age. Walked at three years. Never talked much. Three years of age he could not talk plainly enough to make strangers understand at all. His walk was slouchy and there was great tremor of the lower extremities. He has been taking thyroid extract for three years. The dose was 6-12 grains per day. Lately he has learned that when he was not getting enough of the medicine he thought he could not study as well. Several tests were made by omitting the thyroid, and each time his work would be most difficult, and less would be accomplished. With the phonographic record made of his speech three years ago, it is impossible to understand a single word, while with the one made April 15, 1909, every word is as plain and distinct as anyone could make it. He is very accurate in his business relations, has learned to write on the typewriter, and is able to take care of my phone at the office.

On April 29, 1909, I transplanted a piece of thyroid gland from his grandmother, who was a hyper-thyroid, into the cancellous portion of his left tibia. We hope that this may take the place of the continuous ingestion of thyroid tablets.

The Pathological Section of the Academy of Medicine of Toledo and Lucas County met May 14.

John P. Gardiner demonstrated a number of pathological specimens.

John G. Kellar reported a case of "Tumor of the Urinary Bladder," which he had removed at operation. The specimen was demonstrated.

Louis A. Levison read a paper on "The Interpretation of Tuberculin Reactions. He said that it is not always easy to interpret the result of a tuberculin injection. The reaction to a tuberculin injection may consist of one or more of three things:

- a. Variations in temperature.
- b. Constitutional symptoms.
- c. Alterations in physical signs.

The temperature rise is very important. The constitutional symptoms may be exaggerated by neurotic individuals; physical sign alterations are detected only in proportion to the skill of the observer, but the rise in temperature is definite. The rise in temperature may be preceded by a fall and this may have diagnostic value in doubtful cases. The rise in temperature may be sudden or increase gradually for ten to twenty hours. Recent infections usually show a quick rise. The fastigium of the ascent having been reached, it may drop at once or remain high for several days. The return to normal appears to be quicker than the initial rise, although some cases gradually fall with slight exacerbations, not fully regaining normal range for a week. If the temperature rise is very slight, it is better to have supportive evidence in the constitutional symptoms and local signs, but a distinct rise in temperature carefully differentiated from extraneous sources is sufficient.

The constitutional symptoms are varied and numerous. The value of these symptoms is in direct ratio to the intelligence of the patient, the case with which the previous history had been obtained and the absence of neurotic elements. The symptoms are not in themselves characteristic, but are the usual ones of a more or less severe intoxication, such as indisposition, pains or aches in head, back or limbs, anorexia, vomiting, diarrhoea, increase in cough and expectoration, chills, sweats, dyspepsia, weakness, dizziness, and insomnia.

The third of the trio of the diagnostic features is the change in physical signs. The signs are usually above neurotic influences. In interpreting an alteration in lung signs, one must bear in mind that the signs may spontaneously vary from day to day. Many observers ascribe to alterations in physical, priority in importance. Such alterations should be carefully looked for in every case. They may occur without changes in the temperature, or the appearance of new symptoms. These changes have a specific predilection for tuberculosis foci and the localization of new signs at a previously suspected area is important. The breath and voice sounds may become increased and rales may appear where none were before. Friction rubs and herpes labialis may occur.

The Academy of Medicine of Toledo and Lucas County met May 28.

The general subject of the evening was "Tuberculous Peritonitis."

Dr. N. Worth Brown read a paper on "Tuberculous Peritonitis from a Medical Standpoint."

The importance of good hygienic conditions was insisted upon. The dietetic methods of treatment employed in pulmonary tuberculosis apply equally well to the peritoneal form. The patient should receive the benefit of open air, whether kept indoors or out. The use of external applications such as green soap was considered in detail.

Dr. Brown spoke highly of the vaccine treatment, which he described in full. The various kinds of tuberculin and their indications were given.

Dr. Charles Betts read a paper on "The Surgical Treatment of Abdominal Tuberculosis."

The surgical treatment of tuberculous peritonitis, dates back to 1862; Spencer Wells having operated a case of ovarian cyst and found fluid walled off in the peritoneal cavity which prior to operation closely resembled ovarian cyst. He also pointed out the close connection between this type of disease and disease of the synovial membrane in tuberculous joints.

The knowledge of the disease however dates back to 1825. From 1862 to 1884 there seems to have been but little done from a surgical standpoint. Koenig at this time is given credit of placing the operation on a sound footing. Prior to his time, if operated cases recovered or cases spontaneously recovered, the diagnosis seems to have been questioned. Statistics show from 25 to 30% recoveries spontaneously, in non-operative cases; observation having been made long enough to positively demonstrate results; treated medically, statistics show from 25 to 80% recoveries. Statistics based on operative treatment show the same variation, anywhere from 40 to 85% recoveries.

The great variation in statistics must bear a direct ratio to the severity and nature of the disease, whether serious, sero-fibrous, fibrous, or purulent, the extent of viscera involved, its location as regards complications, the resistance of the patient, time of coming under observation, age, sex, hygienic surroundings, etc.

Statistics seem to be lacking with regard to the true condition of the patient at time of operation, and I doubt not were each set of cases placed in their proper class, there would be a greater similarity as regards per cent.

Wunderlich gives the most accurate table with classification of 500 cases, the ascitic form shows 344 cases with 23.3-10% cures. The fibro-adhesive shows 13 with 9.8% cures, ulcerative 20 cases with no cures.

Statistics from American surgeons seem to give a little higher percentage of recoveries, al-

though they do not seem to classify their cases so well. According to Kelly and Noble 294 cases show 233 recoveries or 79%.

The ulcerative form as given by Wunderlich showing twenty cases with no cures bears out the statement of Billings of Chicago, that these cases invariably die.

It has been proven by operating on lower animals, that if operated upon in the early stage of disease tubercles would develop and reaccumulation of fluid take place, whereas operation at a later date after the acute symptoms had subsided, or in more chronic state accumulation did not take place. We have very many theories as to how simply opening the abdomen evacuation of fluid with closure of wound cures some of these cases; we know that the peritonum has a wonderful lot of resistance, and that old accumulations of stagnant fluid, according to Notzel, is very poor in bactericidal properties as compared with fresh fluid from peritoneum and which is even greater in bactericidal powers than blood serum, and what nature needs is assistance in her antibacterial powers.

Now if the cavity is flushed out with antiseptics there is a question as to whether they will not do harm, antagonize the protective forces, destroy the phagocytes, interfere with capsular circulation, and in the end the anti-bacterial powers of the blood will in my opinion be much lessened, instead of being increased by their use, which is something one might imagine at first thought on the subject.

Wright and others have stated that the pouring out of new serum after emptying the abdominal cavity, assists nature in her destruction of the bacteria; this in connection with manipulation wiping out the cavity and surfaces induces a hyperaemic condition, the entrance of air into the cavity, etc., all tend toward a beneficial ending.

Wright has also stated that the removal of diseased foci or structures that were specially subject to infection might be imperative. Murphy, in a very exhaustive article on the subject in 1903, showed that in the ascetic form the open end of the tube was quite invariably found to be the constituent focus of infection, and suggested that this should be removed when practicable.

W. J. Mayo, after several failures to cure by reopening the abdomen evacuation of the fluid accepted the suggestion of Murphy, and cured his patient by removing the infected focus. Again we must not lose sight of the fact that even though the disease should seem entirely local there is nevertheless the constitutional treatment

demanding our attention just as surely as the surgical.

Until we are better equipped with knowledge, and our ability to diagnose these cases and judge the condition taking place in the abdomen, surgery does not seem to be especially in the line light as against medical treatment. Ochsner says fully fifty per cent of those cases recover in the hands of a general practitioner. George B. Johnson says that Borchgrevink advises these cases of serious tubercular peritonitis should be handed back to the medical man.

In view of these facts confronting us several questions come up for our consideration:

First, shall we operate upon all cases not moribund; if not, in what cases should we operate?

Second, if we operate shall we liberate adhesions, remove tubercular masses, irrigate with saline, boric acid, iodene, vioformic and should we drain or not?

Third, shall we remove tubes, ovaries and appendix if microscopically they seem normal?

Fourth, shall we operate in the face of tubercular disease in other parts of the body fairly well advanced, more especially the lung?

In answer to first question, I see no objection to operate in any case not morbid providing there is no well advanced lung complication and the surgeon does not continue or prolong his operation with undue manipulation and lessen the patient's powers of resistance, afebrile cases or nearly so are of course the more favorable ones.

In the second question, would liberate adhesions only in case of partial or complete obstruction of the bowel, or in case of pain from adhesions, would not remove caseous or tubercular masses unless it could be quickly done, thereby reach sound tissue, as they are frequently connected with the intestine by old fistulous tracts, would evacuate abscess cavities wiping the surface dry with gauze, would resect or anastomose bowel in case of structure and close without irrigation and without drainage.

Third question. If no evidence of diseased adnexia, would allow them to remain especially if patient were in the child-bearing period and wished offspring, or if we found only parts diseased and could be removed thereby preserving normal tissue and blood vessels, we have no reason to doubt that the structures left would not go on to recovery and normal function be re-established, and although books say primary disease of the appendix is rare, I should remove it.

Fourth question. As long as there can be nothing advanced in the way of radical work

there being the possibility or probability of tubercular disease remove from the one in question and we have to accept these chances, I see no reason why we should hesitate to operate in the face of tubercular disease in other parts of the body, providing it is not far advanced and there is the possibility that medicinal treatment in connection with hygienic measures and the use of tuberculin we may at least expect some benefit. The matter of operating in tuberculosis enteritis is subject to considerable diversity of opinion. Israel says that operation or simple section in this class of patients may establish a cure.

In summing up I think we may safely say: First, the gravity of the operation in competent hands is little to be considered, death rate likely to be not greater than two or three per cent.

Second, tubercular infection in the wound seldom, if ever, occurs.

Third, the use of antiseptics in way of irrigation should not be used and the wound should be closed.

Fourth, if the case does not recover the operation has not lessened the patient's chances, nor aggravated their former condition.

Fifth, since surgeons (generally speaking) say the immediate effect of operation is almost always good, lesion in the lung not far advanced should be an indication for surgery in tubercular peritonitis, rather than against it.

Sixth, a combination of surgical, medicinal, hygienic, dietetic and climatic should all go hand in hand to make up the proper line of treatment and give the best results in tubercular peritonitis.

Seventh, there is nothing at present to contradict the fact that in operating these cases we may accomplish or assist nature in accomplishing the removal of the focus of infection, also the element left after the tubercular process and should assist nature in preventing additional infection. We understand, of course, that judgment should be used in the selection of the case in question.

FIFTH DISTRICT

FRED W. HITCHINGS, M. D., Collaborator.

The Geauga County Medical Society held its twentieth regular session at Burton. The program consisted of a very interesting address on "Some Important Features in the Management of Rectal Diseases," by J. M. Waugh, of Cleveland. A free discussion followed by the members of the Society.

The sixty-first regular monthly meeting of the

Lake County Medical Society was held at the Cowles House, Painesville, Ohio, Monday evening, June 7. The program was as follows: "Presentation of Cases;" paper by Edward Launder, of Cleveland, on "The Early Care of Eye Injuries."

The Erie County Medical Society met at the court house on Wednesday, May 26. Program Post Partum Hemorrhage," C. C. Davis; "The Abuse and Use of Forceps," W. Storey; "Complications of Labor and their Treatment," M. J. Love; "Report from the State Convention," by Charles Graefe.

The Ashtabula County Medical Society held its 43d regular meeting Tuesday evening, June 1. Paper—"The Clinical Pathology, and Treatment of Arterial Diseases," by C. F. Hoover, Cleveland; Report of Ohio State Association recently held at Cincinnati, by the delegate, C. E. Case; Reports of Clinical Cases and General Discussion.

A meeting of The Trumbull County Medical Society was held on Wednesday evening, June 16, 1909, at eight o'clock, at the offices of Drs. Sabin and Page, Warren. H. W. Rogers, of Cleveland, was present by invitation and read a paper on "Modern Views of Nephritis, with Report of a Case." A clinic for heart cases followed, when Dr. Rogers examined and commented upon cases which were provided by members.

The regular meeting of the Huron County Medical Society was held June 10, at Norwalk. Program was as follows: "Gastro Enteritis, Adult" E. G. Woodward; "Gastro Enteritis, Infantile," W. E. Gill; "Intestinal Antiseptics," H. H. Ewing.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Tuscarawas County Medical Society met June 1. Program was as follows: "Insanity as Affecting Responsibility for Crime," C. U. Patterson, Uhrichsville; "Insanity in this State," Hon. T. J. Russel, Newcomerstown; "Insanity; Its Forms, Prognosis and Treatment," Earl E. Gaver, Columbus. In the evening the round table was conducted by E. A. Wolf. Subject: "Gastro-Intestinal Diseases of Infancy and Early Childhood." The physicians of Uhrichsville and

Dennison entertained the members of the Society at a dinner.

A meeting of the Columbiana County Medical Society was held at George P. Ikirt's hall, East Liverpool, at one o'clock p. m. on Tuesday, May 11, 1909. Program was as follows: "Tuberculosis and Preventable Diseases," O. P. Andrews, East Liverpool; "The Value of a Detailed History in the Diagnosis of Intra-Abdominal Disease," Otto C. Gaub, Pittsburg, Pa.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

The regular meeting was held June 21. The program was as follows: "Symposium on Summer Diarrheas of Childhood." The discussion was by C. C. Ross, J. M. Rector, J. H. J. Upham, J. A. Van Fossen, F. F. Lawrence and John Rauschkolb.

C. W. McGavran gave a preliminary report of a case (female) of amebic dysentery. The stools contained the amebae. He spoke of the intended medical treatment of the case, and said that appendicostomy would be advised should the symptoms prove obstinate.

L. T. Le Wald (of the U. S. Barracks) spoke of the different forms of the amebae, and of his experience in the treatment of the tropical forms of the malady.

Fred Fletcher said that, in a surgical way, the appendix, owing to its uncertain position, its variation in size, and its tendency to become chronically inflamed when fixed to the abdominal wall, was not an ideal part of the bowel to use for the purpose of colonic flushing. He pointed out that it was an easier matter to make either caecostomy or colostomy, and that there was little danger of a permanent fecal fistula, providing the technique of Senn (for colostomy) was practiced.

The regular meeting of the Columbus Academy of Medicine was held June 7. The program was as follows: "Criminal Abortion," A. B. Davenport. Discussion by A. S. Barnes.

Starling S. Wilcox reported the case of a young man, aged twenty-eight, upon whom he had operated a few days before. The patient was a masturbator and used chewing gum in the form of a bougie. One day he lost control of the gum which worked into the bladder. Examination showed a decidedly contracted meatus. Meatotomy was performed, not only to allow the

introduction of the cystoscope, but in the hopes that the contracted meatus was the cause of the irritation inducing the masturbation. Through the cystoscope the gum was seen doubled on itself in the form of a horseshoe. In the absence of an operating cystoscope, perineal section was performed and the gum delivered without difficulty. Though the gum had been the bladder for thirty-five days there was no incrustation, and it had caused no cystitis.

"A Case of Hodgkin's Disease with Marked Involvement of the Faucial Tonsils," L. T. Le Wald, captain, medical corps, U. S. Army.

Extract—H. H., aged forty-nine years. Family History: Father died at age of forty-five; cause unknown. Mother died at age of seventy-two; senility. Patient is married. His wife and three children are in good health. Past History: Denies ever having syphilis. Has enjoyed good health until present trouble began. Present History: About a year ago first noticed some slight difficulty in swallowing, especially on rising in the morning. A more or less constant feeling of gagging was added. Both of these symptoms have gradually increased, and to them has been added within the past three months difficulty in swallowing, together with some difficulty in breathing after slight exertion, and increasing difficulty in hearing. It was for the latter difficulty that he sought my advice. About six months ago he noticed a swelling about the angle of the jaw on the right side, and this has gradually enlarged to the size of an English walnut. About four months ago he first noticed that there were tumors in each groin. Thinks he has lost about twenty-five pounds in weight since his illness began. He has continued at work as a carpenter, but feels that he can not continue to do so much longer.

Examination was first directed to his ears as requested. Markedly retracted membrana tympani was found on each side. On inspecting the throat for evidence of obstruction to the pharyngeal orifices of the Eustachian tubes there at once came into view an enormous protrusion occupying the space between the right anterior and posterior pillars of the fauces and projecting inward and forward. A malignant tumor of the tonsil was at once thought of, especially as the enlarged gland at the angle of the jaw on the right side had already been noticed. Closer examination, however revealed almost as large a mass in a similar location on the left side, together with moderate enlargement of the

lymph gland at the angle of the jaw on that side. And then going over the cervical glands one finds both the anterior and the posterior group on each side involved in a very uniform way, thus making it appear that we certainly do not have a malignant tumor of the right tonsil with secondary involvement of the lymph glands.

Further examination shows that the right tonsil projects beyond the median line, and on the slightest effort at swallowing meets its fellow of the other side, which during quiet respiration is only separated from it by about 5mm. On irritation of the uvula with the mirror to produce gagging the tonsils are brought very forcibly together. There is a slight area of superficial ulceration on the median surface of the left tonsil, apparently due to this repeated pressure during the act of swallowing. The size of the right tonsil measures about five by four centimeters and its depth is estimated at four centimeters. The left tonsil measures approximately a centimeter less in each direction. Each tonsil then is about the size of a peach, and presents a smooth surface of a dusky hue. On palpation they are found fairly firm, but less resisting than the normal tonsil. They are not adherent to the faucial pillars.

Examination of axillary lymph nodes shows a symmetrical enlargement of moderate degree on both sides. The epitrochlears are very decidedly enlarged, the one on the right measuring about four by three centimeters; the one on the left about half that on the right. The inguinal and femoral glands are markedly enlarged, forming large irregular masses which project well above the surface. On palpation they are found, however, to be separate nodes, and are still movable on the underlying structures. On percussion, mediastinal glands not enlarged.

There is no palpable enlargement of the liver or spleen, although the area of dullness over each of these organs seems to be somewhat increased. Abdominal and pelvic glands can not be palpated.

A smear of the blood shows no apparent leucocytosis. Hemoglobin 75 per cent. as read by means of the Tallquist scale.

Urine: Specific gravity, 1030; no albumin; no sugar.

Diagnosis: Aleukemic Lymphadenomatosis, (Hodgkin's Disease).

The case was seen in consultation with J. D. Dunham, who confirmed the diagnosis and made a second blood examination which showed: Red

cells, 3,450,000; hemoglobin (Fleischl) 70 per cent; white cells, 4,600.

The case was seen in consultation with Andrew Timberman with a view to the excision of the tonsillar masses. Anti-syphilitic treatment was advised and was carried out for a period of two weeks without any reduction in the size of any of the enlarged nodes or of the tonsils.

On June 1, 1909, with the assistance of S. Leach, who was prepared to ligate the facial or if necessary the external carotid arteries, Dr. Timberman and myself excised the tonsillar masses. The patient was anesthetized with chloroform, the latter anesthetic being chosen on account of its being less productive of mucus in the throat. The route through the mouth was selected inasmuch as the masses appeared to be non-adherent to the surrounding structures. The masses were dissected away from the pillars of the fauces, but owing to their extreme friability, after removal of the larger upper portions by means of forceps, knife and scissors, it was found necessary to complete the excision by means of a large Farlow tonsil punch. This procedure required considerable time on account of the size of the tonsils, but was satisfactorily accomplished, so that no vestige of tonsillar tissue remained. The completeness of the excision was evidenced later by the presence of bundles of muscular tissue on the edges of the microscopical sections. Hemorrhage was free throughout the operation, but at no time seemed to warrant the ligation of the facial or external carotid artery. Firm pressure applied for a few minutes from time to time during the operation was sufficient to control it. Dr. Leach excised the enlarged lymph node in the right submaxillary region for the purpose of submitting it to microscopical examination. On gross examination this gland presented a uniform enlargement without extension of the process through the capsule. On section, greyish-white in color; consistency, soft with an almost mushy central portion. No evidence of caseation. Examination of the excised tonsillar masses shows a lack of the usual appearance of a cryptic arrangement. On section, darker in color than normal, diminished in consistency, homogeneous structure throughout, limited by a distinct and moderately thickened capsule.

A blood examination on the day of the operation gave practically the same result as the two previous examinations. The differential count was as follows: Lymphocytes, 26 per cent.; of which 9 per cent. were noted as small mononuclears, and 17 per cent. as large mononuclears.

Polynuclears, 69 per cent.; Eosinophiles, 2 per cent.; Basophiles, 3 per cent.

Temperature was normal on admission to hospital and had been so on several previous examinations. Pulse was 80 on admission to hospital. On the day following the operation temperature reached 102 degrees, but pulse remained below 90. There were some adherent decomposing blood clots at the bases of the tonsillar wounds. The next day the clots were removed and temperature dropped to normal and remained so. The tonsillar wounds healed rapidly under frequent cleansing with peroxide of hydrogen.

There had been some improvement in the patient's general health and a gain of two pounds in weight in the two weeks following the excision of the tonsillar masses. The patient now swallows without difficulty and feels entirely relieved from any discomfort in his throat.

Microscopical examination of the excised lymph node shows no evidence of tuberculosis, sarcoma or syphilis. It shows a proliferation of the reticular cells and of the endothelial cells. There does not appear to be present the abundance of eosinophiles described in some cases by Warthin.

The case then appears to be one of the aleukemic generalized lymphocytomata, of a rather benign nature, but a case in which one would expect a progressive hyperplasia of the lymph nodes. An immediate fatal ending seems to have been aborted by the successful total excision of the tonsils together with their hyperplastic infiltration. One would not look for a recurrence of the growths in the tonsillar wounds, in view of the total excision of these glands. The recurrence of these growths in other locations after excision is probably to be explained by the inability to excise the small lymph nodes which have not been involved at the time of operation.

NEWS NOTES

At the annual meeting of the American Surgical Association held at Philadelphia, June 3-5, the following officers were elected: President, Rudolph Matas, New Orleans; Secretary, Robert G. Le Conte, Philadelphia, Pa., and Treasurer, Charles A. Powers, Denver, Colo. The society will meet next year in Washington, D. C.

At the annual meeting of the American Academy of Medicine held in Atlantic City, June 7, the following officers were elected: President, James H. McBride, Pasadena; Vice-President,

Philip Zenner, Cincinnati, O., and Secretary, Charles McIntire, Easton, Pa.

At the alumni meeting of the Starling-Ohio Medical College, held May 18, A. G. Elder was elected President; Maybelle Richards, Secretary, and Robert Drury, Treasurer.

Starling Wilcox, of Columbus has sent out a card announcing the restriction of his practice to disease and surgery of the genito-urinary system.

R. C. Longfellow, Toledo, Ohio, has been appointed Consulting Clinical Bacteriologist, Volunteer Staff, Ohio State Sailors' and Soldiers' Home hospital, Xenia, Ohio.

DEATHS

P. J. Edwards, one of the most respected members of the Geauga County Medical Society, died at his home in Montville, May, 1909.

A. F. Cook, University of Michigan, '81, was found dead in his office, Sandusky, O., May 15, aged fifty-eight.

C. W. Power, Western Reserve, '88, of Wooster, O., died in Nogales, Ariz., March 20, after operation for abscess of liver, aged forty-nine.

J. R. Wampler, Eclectic Medical College, '88, died at his home in Dayton, O., April 13, from cardiac dilatation, aged fifty-nine.

J. S. Boone, Cincinnati College of Medicine and Surgery, '72, died at his home at Powhattan, O., April 2, aged sixty-nine.

T. J. Edwards, Western Reserve, '92, died in Cleveland, May 16, from malignant disease, aged fifty-eight.

J. N. Scowden, Cleveland University of Medicine and Surgery, '94, died at his home in Lowellville, O., November 14, from apoplexy, aged sixty-eight.

J. B. Welsh, Medical College of Ohio, '58, died at his home in Eaton, O., May 29, aged eighty-eight.

R. M. Durbin, Cleveland College of Physicians and Surgeons, '83, died near Hessville, O., May 30, from cancer of the esophagus, aged fifty-two.

P. B. Tolford, Starling Medical College, '98, died in Sylvania, O., May 28, after an operation for appendicitis, aged thirty-five.

Frank McMacklin, Columbus Medical College, '90, died at his home in Tarlton, O., May 31, after an operation for appendicitis, aged forty-three.

MARRIAGES

Leslie L. Bigelow to Elizabeth Cole, both of Columbus, June 8, 1909.

VACCINAL IMMUNITY IN CHILDHOOD.

Comby (Arch. de Med. des Enf.) concludes that the immunity conferred by vaccination is at times lost very quickly. Prudence demands universal vaccination in times of epidemics, even of children who have recently been successfully vaccinated. When a first vaccination is negative in a child, a second, a third, a fourth inoculation should be made if necessary, for it rarely happens that one does not get a positive result finally. Even though it be admitted that vaccination will not in every case protect absolutely against smallpox, it should not be forgotten that any resulting infection in vaccinated cases is always mild.—Medical Journal.

Surgical tuberculosis, no less than pulmonary tuberculosis, calls for the most careful general treatment, post-operative and otherwise. Out-of-door life is as important here as for phthisis.

—Surgical Suggestion.

When cleansing the vagina and vulva in preparation for an operation, a soft cotton mop should be used for the vestibule; a stiff brush is too apt to bruise or lacerate the urethra and cause dysuria for some days hereafter.

—Exchange.

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ORIGINAL ARTICLES

PITFALLS IN URINARY DIAGNOSIS.

BRANSFORD LEWIS, M. D., B. S.,
St. Louis.

[Annual address, delivered by invitation before the Urologic Section of the Ohio State Medical Association, Cincinnati, May, 1909.]

The topic chosen for discussion just now is one that to me is of enthralling interest, always; one that ever beckons invitingly, and loses nothing by repetition and reiteration. Diagnosis is the one substantial rock on which we can base our reliance in the perennial combat against disease. Whatever the mutations of pathology or the changing fads of therapy that present themselves in kaleidoscopic review from year to year, diagnosis must ever stand firm and enduring, hanging only as it becomes more broad and unassailable. It must be tangible, accurate, definite, comprehensive, complete. Shortcomings in respect to diagnosis render void and worthless the most beautiful structures of theory and practice that can be erected. Such shortcomings allow human beings to suffer for months and years that might, with diagnosis made clear, be healthy and useful citizens all of that time. They would be within easy reach of relief all of that time if only the cause of the complaint were recognized. I recently removed a stone as big as a hen's egg from the bladder of a man who, as indicated by his history, had carried it for ten years. For the past two years he had been urinating during the day time every twenty minutes, and during the night, every thirty minutes. He had practically given up his business in order to attend to the more urgent demands of frequent urination; and sleep had become a lost art with him. Will anyone say that the difficulty in this case, the thing that retarded his attainment of relief, was that of *removing* the stone? Will anyone say that there could be any justification or failure to discover, with even the most elementary examination, a stone as large as that? And yet the patient had ex-

perienced a very considerable portion of his possessions in his prolonged quest for relief; had consulted all of the several physicians of his community, receiving only *medicinal treatments* and urinary soothing syrups in the shape of santal-this and anti-that, but *never a semblance of physical examination or a definite attempt at diagnosis.*

This illustrates a most unfortunate habit to which some of our noble profession are addicted: That of skipping diagnosis altogether, and 'jumping pell-mell into some kind of alleged treatment for urinary symptoms; treatment that often cannot possibly do any good, but if effective at all, accomplishes the greatest harm by palliating and masking the evidences being offered by nature as signals of distress, and that are the most valuable means possible for directing attention to the afflicted organ. Heartrending are the results of such practice. Many are the monuments commemorative of its exalted ignominy—seen most frequently on the post mortem table, as atonied bladders, dilated ureters, distended renal pelves and sacculated, destroyed kidneys—so-called "surgical kidneys", that, really, are anything but surgical kidneys; that would never have become thus destroyed if surgery had not been withheld from them, usually through total disregard of diagnosis.

One would think, from the stately, dignified and methodical manner in which diagnosis receives its review in conventional contributions on the various diseases affecting humanity, that it would receive due consideration in the practical phases of every physician's life—at the bedside and in the clinic. But experience forces the conclusion that this, unfortunately, is not always true, at least in the domain of urinary affections.

Perhaps one reason for this is because the urinary organs are more difficult of access than others of the body; whose investigation is thus rendered less easy, whose exposure cannot be made quite so evident. But do obstacles justify lax endeavor in medical work? The consolation

of such a doctrine is not given to us. And, besides, the means for investigating precisely and comprehensively the whole urinary tract from end to end are so multifarious, so exact and reliable that the slightest thought disposes of such a claim.

Gentlemen, there is no longer excuse or warrant for the lapses in urinary diagnosis that were formerly accepted or condoned as necessarily incidental to medical practice, unless the various means for attaining exactitude in diagnosis have been exhausted. If one undertakes the responsibility of treating a patient, he must at the same time assume the responsibility of acquiring for the patient the full quota of necessities for attaining complete diagnosis, on which the treatment must necessarily be based. Because he does not possess or does not know how to use a given instrument or means of diagnosis, does not excuse him from the responsibility of having such means used, when necessary, on the patient. How many of us personally use the X-ray apparatus? And yet how few of us could get along now-a-days without its magnificent orientation!

So much for the relative disesteem in which diagnosis currently and practically stands, as compared with the subject of treatment. As to the relative importance of the several features upon which a diagnosis must rest, the history, symptomatology, semeiology, and physical examination, elsewhere* I have had this to say: "The two steps necessary in arriving at a diagnosis of disease are: (1) acquiring the evidence referable to the affection; and (2) reaching correct deductions from that evidence. By some, the chief part of this program is considered to be the eliciting of an elaborate and systematic history of the case, with the collection of all side-lights, observations and impressions of the patient. The French have been especially diligent in developing the symptomatology of disease and bringing to bear on able scientific analysis. The modern trend, however, seems to be away from this direction, placing greater reliance on the numerous direct methods of examination that have come into vogue. With these at one's disposal, it is probable that the diagnostician can, in a few minutes of investigation, acquire more definite and material information than he can with hours of research into a case-history.

There are reasons for this, aside from the materialistic bent of modern practice. The prominent symptoms of urinary affections, while

strongly indicative of disease at certain points, are not efficient for differentiating between the several forms or kinds of disease that may affect those parts. It is a common thing for patients afflicted with urinary disease to relate their troubles to one another, with the unvarying conclusion that they are suffering from the same complaint, basing it on the common symptom, for instance, of frequent urination whereas, the one may be affected with tuberculous cystitis, the second with stricture, and the third with renal disorder—totally different affections in their pathological basis."

It is probable that the most capacious pitfall in urinary diagnosis is that presented by illusory symptomatology, misleading the investigator at times by simulations, at times by reflected nervous impressions, or by secondary involvements that become more prominent than the original affection; and also by reversed or transferred influences do the symptoms of urinary affections make themselves notoriously unreliable for diagnosis. The transference of pain from a diseased kidney to the healthy one of the opposite side, is now so generally recognized as frequent—occurring in renal derangements that alert diagnosticians are ever on the lookout for it. The better of two kidneys has been removed in many instances for no less a reason than this. But, happily, this opprobrium hardly pertains to modern surgery, fortified as it is with better means and measures of efficiency than symptomatology.

To review them more in detail, we might consider the more important diagnostic pitfalls of the several parts of the tract as follows: A. Of the urethra; B. Prostate; C. Seminal vesicles; D. Bladder; E. Ureters; F. Kidneys.

Of the Urethra. Urethritis. A diagnosis of urethritis, only, is inadequate for present day needs. Additional to that, one must determine (a) whether the urethritis is gonorrheal or simple; (b) whether it affects the posterior as well as the anterior urethra; what complications or extensions of the disease exist. Anything short of this in urethral diagnosis may and frequently does lead to indefinite continuance or recurrence of the infection, as well as extension to the upper urinary tract. Countless numbers of inveterate gonorrheas have persisted only because of lack of recognition and treatment of the posterior urethra, which being infected, stays so indefinitely until cleaned out and disinfected by posterior treatment, something impossible to furnish with the old-fashioned clap syringe and internal treatment.

The microscope for detecting the gonococcus;

* Keen's Surgery, Vol. IV, "Surgery of the Bladder," page 272.

the double-glass urine test for determining the question of posterior involvement, and the prompt recognition of complications or extensions of the infection to allied organs that habitually lead to reciprocal re-infection—are the means available for avoiding this sequence of events.

Take nothing for granted in urinary diagnosis. So skeptical am I of accepting appearances at their face value, in urinary investigation, that I have long been in the habit of following a uniform plan of examining the whole genito-urinary tract, no matter what was presumed or thought to be the location of an infection or inflammation.

The necessity of pursuing such a plan has many times been made evident to me. Cases in which perfectly clear urine had been passed into two glasses, apparently eliminating urinary inflammation, would on prostatic or vesicular massage give down pus containing gonococci; showing the absolutely false conclusion into which the acceptance, without further investigation, of the clear urine would have lead.

The Steps of Investigation. The several steps of this method of investigation may be briefly given as follows:

1. History of the case.
2. Inspection of the internal genitals, for abnormalities, discharge, etc.
3. Securing smears of any discharge present, and staining by methylene blue and by Gram.
4. Double-glass urine test (leaving one ounce in the bladder for subsequent purpose). Centrifugalize both specimens, and examine sediment both stained and unstained.
5. Rectal palpation of prostate and seminal vesicles, the finger protected by finger-cot, well lubricated, a butter-platter held under the penis to catch the massage discharge. Massage applied first to right lobe of prostate, next to left lobe, then to right vesicle, and last to the left vesicle. Discharge subjected to the same tests, fresh and stained. Palpation determines physical condition of the organs felt, as to whether swelled, inflamed, tender, modular, soft, hard, etc. If the massage has expressed no drops from the meatus, the next step should be:
6. Passage of remainder of the urine into the third glass; which should be sedimented and examined microscopically in the same way (fresh and stained specimens of the sediment).
7. Use of bulb sounds for determining the caliber of the anterior urethra, and the presence or absence of strictures there. If this part of the canal is found free of abnormal contractions, a full-sized steel sound, say 27 or 28,

French, is introduced into the bladder to determine the same questions for the posterior urethra.

8. In certain cases, for instance, of chronic urethritis, it may be desirable to substitute the use of the endoscope for the seventh step, reviewing the urethral mucosa before its surface has been disturbed by the bulb sounds. In that case the bulb are used directly afterwards, as step 8.

9. If the examination thus far has given rise to the suspicion of urethral obstruction, the next step is to determine the amount of that obstruction as indicated by the residual urine. A soft rubber catheter, sterilized, is introduced and drains the residuum into a sterile glass.

10. Residual urine of two or more ounces indicates obstruction at some point; its location and nature have yet to be determined. If the residuum has been drawn by a large-sized catheter, tight stricture as its cause is thereby eliminated, and suspicion of prostatic obstruction is correspondingly increased, whether or not enlarged prostate has already been felt through the rectum. This makes the tenth step in the examination, that of cystoscopy, for the definite purpose of seeing the size, contour, location and character of the prostatic overgrowths, and learning their exact bearing on the obstruction. The retrospective telescope, of the universal cystoscope (Fig. I.) is the one especially adapted to this purpose, although the direct and the right-angle telescopes give desired information regarding the remainder of the bladder, and its contents, as to whether there are stones, foreign bodies or tumors present, and their location.

11. If the examination thus far made excludes the bladder and lower-urinary tract as originating the complaint, whatever it is, and there is hematuria, pyuria or other condition whose origin is not yet defined, the next step is that of double synchronous ureteral catheterization, for the double purpose of sounding the ureters and of draining the urines from the respective kidneys and examining them in the several ways necessary.

12. If the strong and other features of examination give rise to a strong suspicion of ureteral or renal calculus, the step now appropriate is that of double synchronous ureteral catheterization, the catheters styletted with fine copper wire, and the taking of a skiagram by an expert radiographer.

If this program of investigation is conscientiously carried out and the diagnosis is not cleared up or a mistake in diagnosis made, I believe the condition to be a permissible one,

because we have applied all the arts and sciences at our disposal to develop a complete diagnosis, and the failure must rest on the limitations of human capacity, imposed on us all by Nature.

But there are certain qualifications and elucidations that might properly be mentioned with reference to the mode of investigation sketched above.

It is believed that the sequence of the several steps as given should not be disturbed; that they should be carried out in the order given, unless

The double glass urine test, one of the most serviceable procedures at the disposal of the urologist, is capable of giving correct or false conclusions, according to whether it is applied correctly or incorrectly. The logic of the test is, that post-urethral inflammation gives both parts cloudy, while inflammation limited to the anterior urethra makes only the first glass cloudy; explainable on the ground that pus formed in the posterior urethra in connection with posterior urethritis passes back into the bladder and clouds

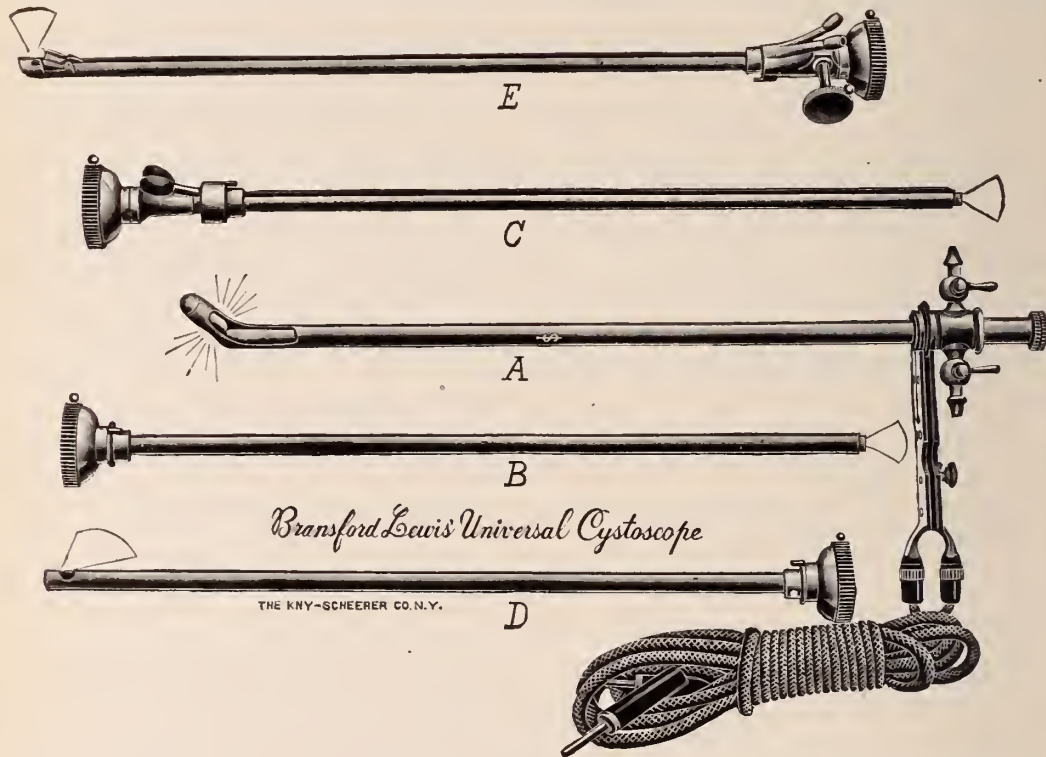


Fig. 1.

The Bransford Lewis Universal Cystoscope.

Fig. A—A sheath, with obturator, the former affording illumination of the whole interior of the bladder by penetration of its beak on both convexity and concavity. Electric cable, with cut-off switch attached, placing control of the light in the hands of the operator.

Fig. B—Telescope non-catheterizing for direct (forward view).

Fig. C—Telescope for direct double ureteral catheterization.

Fig. D—Telescope for retrospective view, non-catheterizing.

Fig. E—Telescope for indirect double ureteral catheterization, with right angle low.

some especial condition interferes. For instance, if one should use the bulb sounds before having the patient pass water into the two glasses, or before making the massage, or before using the endoscope, that in itself will alter his findings and perhaps lead to erroneous conclusions. He may obtain clouded urine or massage mucus streaked with blood, or an intensely congested urethral membrane, all from the effect of the sounding itself, without reference to any disease present.

all the urine, whether first, second or third glass; while in anterior urethritis the urine in the bladder is unclouded before it starts from the organ; its first part (that in the first glass) becomes clouded by taking up the pus of the anterior urethra; while the second part (in the second glass) has a clean urethral channel to travel over, does not become clouded in transit, and therefore, shows clear in the second glass. If, now, in case of posterior urethritis, the test be made so shortly after the previous passage of

the urine that no time has been allowed for the production or passage of the pus from the anterior urethra back into the bladder, the results will be fallacious. The first cloudy, the second clear, although there is posterior urethritis.

Therefore, in order to utilize this most valuable test, one must observe the precautions necessary; that is, allow of sufficient time between urinations to permit the pus formed in the posterior urethra to carry out its natural program and drain back into the bladder, thereby clouding all of the urine. An hour should be ample for this; but the urine passed the first thing in the morning will probably give the most reliable result and is therefore to be favored. It should scarcely be necessary here to mention that the clouding itself of the urine must be differentiated—as to whether it is from pus, phosphates, urates, spermatozoa or bacteria; and that guesses or presumptions should never be made use for the differentiation, but reliance should rest only on the exact agencies of microscope and chemical tests.

Caliber of the Urethra: Stricture. Obstruction to Sounds. It is probable that more unwarranted assaults have been committed on the urethra under the guise of treatment and operations for so-called "stricture" than for anything else related to this tract. Innumerable are the instances in which either cutting operations or prolonged treatments have been applied for the relief of strictures which have had no existence, in fact. Faults of commission, as well as of omission pertain to this subject.

The male urethra is properly and naturally of variable caliber, varying from 23, French, at the meatus, to 35 in the bulbous part, with intermediate variations, also. A bulb sound, size 23, will pass readily down such a urethra until it reaches a depth of about five or six inches, when it stops abruptly. Unless one is acquainted with the reason for this he may interpret it as an evidence of stricture at that point; and I have become acquainted with a large number of instances in which strictures had been diagnosed and treated, in one of the ways mentioned, for no more substantial reason than this. The cut-off, or compressor urethrae muscle, located here, resists the introduction of the bulb sound, although it permits the entrance of the conical steel sound without the slightest difficulty, provided there be no organic narrowing there. Therefore, the bulb sound is a reliable guide for the determination of stricture in the anterior urethra, as far as the cut-off muscle, but absolutely useless deeper than that. On the other

hand, a steel sound might easily pass into a moderately contracted stricture of the anterior urethra, gently pries it open as it enters, and gives absolutely no indication of its presence; so that, thus improperly used, it may be not only worthless, but actually misleading in its diagnostic indications. A sin of omission would then be committed; that of failing to find a stricture that is present.

The logical deduction from these facts is the following: To make use of the largest sized bulb sound possible for the anterior urethra until the cut-off muscle is reached, at a depth of five or six inches; then to use a full-sized steel sound, say 25 or 27, French, until the bladder is entered. The obstruction opposing the entrance of the bulb sound by the muscle disappears on the introduction of the steel sound; whereas, if the obstruction is due to organic stricture at that point, it will obstruct the full-sized steel sound as well as the bulb, making the demonstration complete.

If the obstruction is due, not to stricture, but to prostatic hypertrophy, it will not be encountered at a depth of five or six inches, but posterior to that by two or three inches; and there will be other accompanying physical signs to confirm the differentiation.

Prostatic Hypertrophy. If one should rest content with a diagnosis of "prostatic hypertrophy," simply, in these days, he would be committing several sins of omission at one time. Diagnosis relating to prostatic obstruction should embrace information on the following definite points: 1. As to whether there is prostatic hypertrophy; 2. as to whether it is producing obstruction; 3, the amount of that obstruction; 4, the character or conformation of the obstructing body; 5, the condition and functioning capacity of allied organs, kidneys, heart, etc.

The first point may usually be determined by rectal palpation, with the patient bent over a chair, the hypertrophied prostate appearing to the palpating finger as a large, globular body, divided longitudinally by the furrow that normally separates its two lateral lobes. The fact that the prostate normally possesses but two lobes, the so-called third lobe being a purely pathological production, need not be discussed here.

Hypertrophy of the prostate thus demonstrated by rectal palpation does not settle the point as to whether there is obstruction from it. Many men have hypertrophied prostate without having obstruction from it. That point, and the next one, the amount of such obstruction, can best be determined by having the patient urinate voluntarily, then pass the catheter and draw off

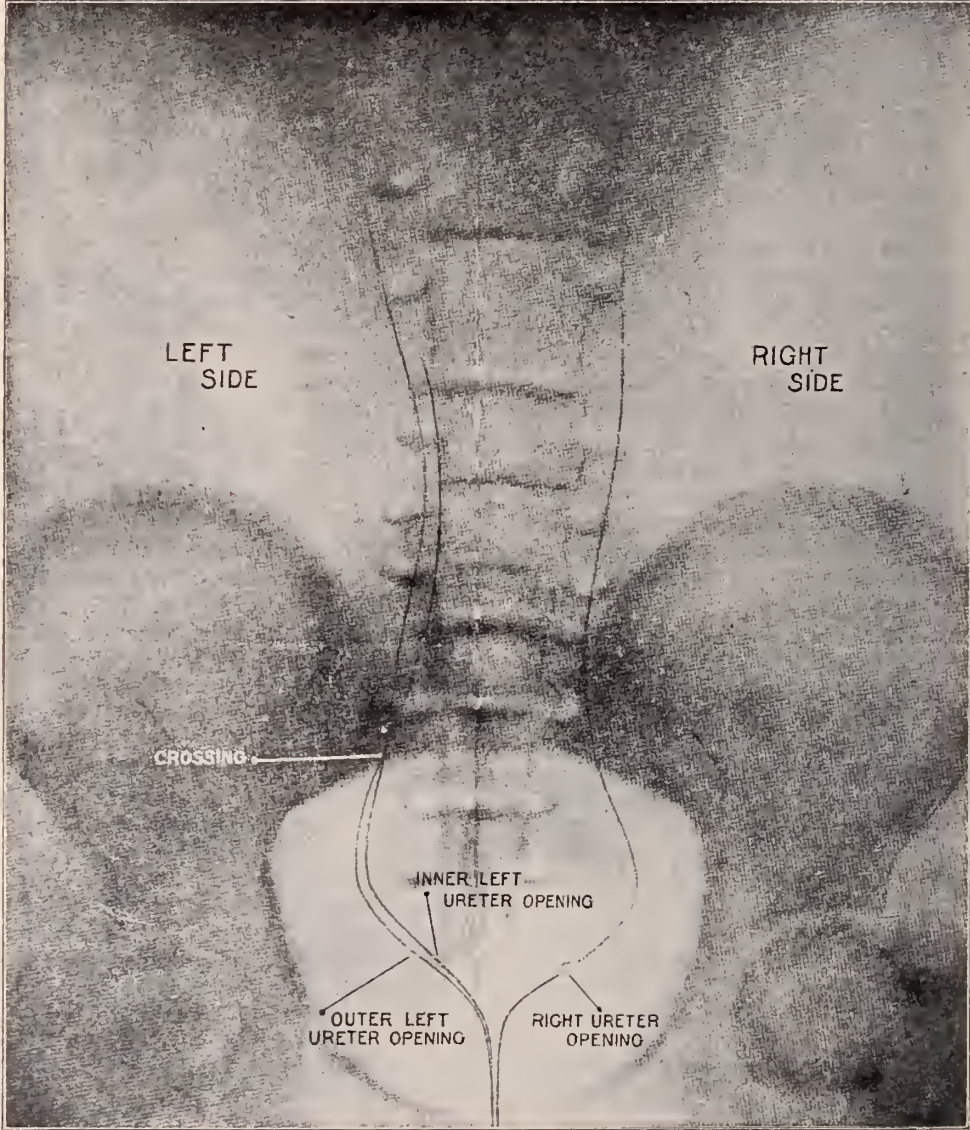


Fig. 2.

the urine left in the bladder. This is called "residual" and is a fairly good indicator of the amount of obstruction and backward pressure being exerted by the offending organ. It varies from two to twenty or even forty ounces or more.

The fourth point in our quest, the character or conformation of the obstructing factor, can best be attained by the use of the cystoscope, and more particularly the retrospective telescope supplied in the modern instrument. This differentiation must embrace not only jutting lobes and intra-vesical outgrowth, but also the detection of the obstruction by what is termed "contracture at the vesical neck." Prostatism without hypertrophy. This is just as effectual for making trouble, backward pressure and damaged kidneys, as is the other, the tumor form of prostatic change. Briefly, the process of determining this sort of obstruction is the following: Having proved the existence of obstruction, with a definite amount of residual urine as its index, and having located the source of the obstruction at the vesical neck by the urethral soundings, already described, and having excluded general prostatic hypertrophy by rectal palpation, and intra vesical outgrowths by cystoscopy, one is reduced necessarily to the conclusion of contracture at the neck, and without the necessity of actually feeling or seeing the contracture.

I was much surprised at observing, in a recent issue (March 27, 1909) of the *Lancet-Clinic*, a discussion on Prostatic Hypertrophy, in which the following was quoted as coming from one of the Cincinnati surgeons: "A patient some weeks ago had passed through the hands of eight or ten physicians, who diagnosed prostatic hypertrophy. A rectal examination revealed nothing. I was not satisfied, and made a supra-pubic incision, but found no hypertrophied prostate. He had been out of a large hospital seventeen days, where he was prepared for its removal, and all believed he had a hypertrophied prostate. Had I not made a supra-pubic incision I should have been in doubt. As it is, he had no hypertrophy, but an infected bladder. * * * "A good surgeon makes a small incision with good drainage, very often for diagnostic purposes, to see if there is hypertrophy, or the third lobe described by Home." In view of the definite and clean-cut manner in which the several essential points for diagnosis of hypertrophied prostate may be determined without any cutting whatever, I can not subscribe to any such teaching nor forego the opportunity of contesting it. The bugbears of prostatic surgery are already sufficient to frighten from its regenerating influence an un-

wonted number of the timid and ignorant; to erect additional ones that are unnecessary, is unwarranted, to say the least.

The necessity for definite differentiation of the several possible modes of obstruction produced by prostatic deviation is apparent when we know that they require entirely different modes of treatment, both operative and methodic. The contracture does not necessarily require enucleation or prostatectomy for its relief; indeed, these might prove entirely inadequate and inappropriate. And, on the other hand, the electro-incision that would relieve the contracture might and probably would prove a complete failure for the other forms of prostatic obstruction.

On the accurate determination of the fifth diagnostic point (the condition of health of allied organs) may depend the success or failure of the operation, or the life or death of the patient, in connection with prostatic surgery. In these cases one is frequently impressed with the fact that the patient's ability to withstand needed prostatic surgery depends much more on the physical condition of his kidneys and cardiac system than on his age—as to whether he is fifty, sixty, seventy or seventy-five years old. Many men are older, in their stability, at fifty than others at sixty or sixty-five; and yet it is a common thing for both patients and their physicians to decline all consideration of operation solely because of the age of the subject. A very considerable number of prostatics more than eighty years of age have been reclaimed to health and comfortable living by one or another form of prostatic operation, without serious menace to their lives.

Seminal Vesicles. The most prominent diagnostic pitfall with respect to the seminal vesicles is that which allusion has already been made; that of overlooking them or ignoring them as a factor because the two urines of the double glass test are clear and therefore appear to exclude the deep urethra and its community of organs from the pathological problem. I would here again repeat the precaution suggested of including these organs in the routine mode of investigation outlined.

Bladder. With a good, comprehensive cystoscope included in his armamentarium, many of the pitfalls of vesical diagnosis are avoided, provided the surgeon is capable of using the instrument to advantage. The difference between the value and reliability of this instrument as compared with the stone searcher, in the diagnosis of vesical stone, is so great as to be incomparable. The searcher must touch the stone to be effective in its quest; and must touch it uncovered with mucus, blood or other material that



Fig. 3.

may interfere with the "click" that forms its signal of the presence of stone. Whereas, the cystoscope has but to be brought within range of view of the stone in order to be effective for its discovery; and that, whether the stone lie in the vertex of the bladder, posteriorly, or in a pouch behind the overhanging prostate, something entirely beyond the range of possibilities of the searcher. Many are the instances in practical clinical life in which vesical stone escapes detection by means of the searcher, to be found later and plainly seen through the cystoscope. The moral of which is to place no final reliance on the searcher for determining this question.

The Upper Tract. While there are other questions with respect to vesical diagnosis that might prove interesting for discussion, more important ones of the upper urinary tract demand our attention.

In inflammations and infections of the lower tract, where satisfactory progress for their relief is not obtained, or there is an unexplained resistance to treatment, I have found it an excellent rule to explore the upper tract by means of cystoscope and ureter catheters, even if no direct indications of trouble are coming from there. In a large number of instances this has thrown a flood of light on the case or even cleared up its obscurity and attained a short cut to relief. I could not better illustrate this than by referring to a case, already published*, the chief points of which, in brief, were these: The persistent recurrence, even without intercourse, of a gonorr-

hea in a young man, during a period of five years, the urethral discharge each time showing abundant gonococci. Consultations were numerous and efforts at relief prolonged, in the East as well as in the West; always with the same result: Recurrence, after a month or two of freedom from the discharge. Finally, in February, 1906, he was brought to me by Dr. Jere Crook, of Jackson, Tenn. For two weeks I applied the various methods for eliminating infection from the lower tract, but without success. Resorting, then, to my usual procedure, the cystoscope was introduced. Three ureter openings were to be seen, instead of two, at the angles of the trigone. One on the right side, and two on the left. In due time three catheters were introduced into the three ureters; three different urines were received and examined, giving three different physical characteristics, but, most important, showing gonococci in one of them, while the other two urines were healthy. Further, while the three catheters, armed with stylets of lead wire, were lying within the three ureters an X-ray photograph was taken by Dr. Carman, the result of which appears in the accompanying illustration (Fig. 2). While these are remarkable and interesting facts of anatomy, physiology and pathology, to the patient himself the interesting feature was that after two or three irrigations of the infected kidney pelvis with argyrol, plus continued attention to the lower tract, he recovered definitely and completely. He has since married and has no further trouble from his old complaint. The only way in which this patient

* Medical Record, October 6, 1906.



Fig. 4.



Fig. 5.

could obtain relief and disinfection of his urinary tract was through cystoscopy, catheterization and irrigation of the infected part. The infected ureter was acting as a perpetual source of renewal of the infection, sending down a fresh supply of gonococci as often as they were killed out by efficient treatment of the lower tract.

The Segregator. The above mentioned case well illustrates, to my mind, the inadequacy of the segregator for either comprehensive diagnosis or treatment. Its use here would have failed in clearing up the diagnosis, in the first place, and would have afforded no assistance in reaching the infected ureter and pelvis with disinfecting medication.

Tubercle and Smegma Bacilli. I wish to call attention here to what I consider a prolific source of error in urinary diagnosis, and more especially pertaining to those who would be ultra-scientific in their diagnostic methods. I refer to the ready possibility of confusing smegma with tubercle bacilli by depending on any of the differential staining methods commended in the text-books and writings on microscopic technique. I have erred in depending on these methods, on occasion, and in not a few instances have witnessed the serious consequences that have ensued from too much reliance being placed on them by others. I believe that many an individual is under the ban of a diagnosis of urinary tuberculosis, with all that that means, for no better reason than that his urine was investigated by the microscopist after having been passed voluntarily and without precautions against including smegma bacilli in the specimen. For instance, the patient from whose left kidney the accompanying large, L-shaped calculus was removed, in 1907 (of which a ro'ogram is shown in Fig. 3) was examined in 1899 by a leading surgeon and an expert pathologist, who united in the diagnosis of urinary tuberculosis, based on the clinical symptoms and the finding of supposed tubercle bacilli in the urine. He labored under that diagnosis for eight years thereafter, absorbing guaiacol and cod-liver oil to the limit, and of course, obtaining no relief from the presence of the stone. In 1907, by ureteral catheterization and investigation of the urines from the two kidneys, plus radiography, we arrived at the correct diagnosis, removed the stone by lumbar nephro-lithotomy, (Fig. 4) with restoration of the patient's health and his ability to re-engage in the practice of law, from which ill-health had debarred him for a long period. Smegma bacilli look and behave too much like tubercle bacilli, under the staining methods in vogue, for me to accept any of them as being reliable for differentiation. It is ad-

vised, therefore, that dependence be placed only on their rigid exclusion by the mode and manner of obtaining the specimen of urine that is to be investigated. Employ catheterization always, in both sexes; and only after thorough cleansing of the external genitals. Precautions are more necessary in females than in males, because of the shortness of the urethral tract and the greater liability of smegma bacilli being inadvertently introduced.

Cystoscopy and Ureteral Catheterization. While time will not permit of extended discussion of the subject, I wish to bring up for condemnation two expedients that are often employed and even recommended by experienced cystoscopists of recognized standing. I refer to the reliance placed on:

(a) The appearance of the ureteral openings as they are viewed by the cystoscope, as an index of the exact condition of the corresponding kidney; and

(b) The cystoscopic appearance of the urine as it emerges from the ureteral openings, without catheterization in either instance. It is claimed by a number of writers that a tuberculous kidney will always show itself by abnormal appearances of the ureteral orifice below it. Redness, swelling, pouting, etc. While I am ready to admit that the positive evidence thus given is of great value, and that it is frequently available, I wish to raise the point that the negative evidence is not to be thus relied upon. That the absence of the changes in the orifice does not justify a clean bill of health for the kidney above it. More than one operator has told me that he had removed tuberculous kidneys in which no untoward appearance of the corresponding ureteral orifice existed. If this be the case, a fatal mistake might be made in relying absolutely on the appearance of the orifice, without catheterizing the ureter.

Similarly, the acceptance of the macroscopic appearance of the urine as it comes in jets from the respective ureteral openings as an indication of its normal or abnormal condition, should be strongly condemned. If, with urine standing in a glass before one, it is necessary to use a microscope to determine whether there are red cells, pus cells, or epithelia in it, assuredly an attempt to settle these questions simply by observing the swirling urine, under the circumstances mentioned, is a fallacy that should neither be practiced nor taught. Assumptions should be shunned and exactitude should be conserved in all of these measures. It not infrequently happens that the urine of a patient seems and looks perfectly clear macroscopically, but sedimented



Fig. 6.

and put under the microscope it is shown to contain numerous red blood cells or even a considerable number of pus cells, both very important factors in diagnosis that might readily escape detection without the use of the microscope. Indeed, I am under the impression that is a common occurrence. I look on the occurrence in the urine, in microscopic quantities and over prolonged periods, of red blood cells as a sign prodromal to the onset of urinary tuberculosis, or at least in close alliance with it. Others have interpreted the sign as being especially suspicious of ureteral calculus (Ransohoff). But whether it indicates the approach of the one or the other condition, the point that I wish to make here is that they should be detected in either case, and at an early period of their existence; and the only way they can be detected is by definite search with the microscope. And yet I have been acquainted with a number of patients who, I learned, habitually passed blood in microscopic quantities, but concerning whom the assurance was positively made that their urine had never contained blood—the macroscopic appearances having been accepted for the determination of that very important matter.

The duty of the Practitioner in the Presence of Hematuria. This the question which the practitioner is often compelled to face: What is best to be done when the patient comes complaining of blood in the urine and presses for its immediate suppression? If we accede to his wishes we will at once prescribe stypticin, thyroid extract or ergot, for the purpose of stopping the hemorrhage; and in doing so we may be doing him the greatest possible injury. Our very success in attaining that object may delay the discovery of a malignant growth at some point in the urinary tract, may conserve its development until too late for our discovery of it to be of practical service, or may retard the demonstration of tuberculous infection until both kidneys are involved instead of only one; or may postpone operative relief from a kidney stone until the organ has been damaged beyond repair. One does not have to draw on his imagination in painting such miserable and unfortunate possibilities; they are met with a deplorable number of times in a year's clinical experience. At the present time I am acquainted with six or eight patients afflicted with inoperable cancer of the bladder, who are beyond all hope of reclaim by human assistance, and who never underwent definite diagnostic research until after the growth had been irreparably fixed on them. The necessary investigation had been postponed from time to time, reliance meantime being placed on

medicaments used for the suppression of the symptoms or signs, the most startling of which is often the hematuria. If we could only appreciate it this manifestation is, in such an instance, the most serviceable and conservative effort that could be vouchsafed by nature. The patient is to be congratulated whose cancerous growth betrays its presence early by such a fortunate indication—provided the advantage is not lost, the denouement deferred, by its blind suppression with medicines without any effort at discovering its cause and origin being made.

Mode of Determining the Origin of Blood or Pus in the Urinary Tract. The approved mode of determining the source of blood or pus in this tract is by definite and minute search of the tract from end to end, by means of the several measures and means at the disposal of the diagnostician at the present day. The double glass urine test, the cystoscope, ureteral catheterization, and radiography, as well as by the more usual modes of physical examination. Symptomatology and semeiology, while useful in certain respects, are not to be relied on for exact differential diagnosis.

The length to which such unreasonable and eccentric symptomatology may go is well illustrated in the following case, personally communicated to me by Dr. George C. Crandall, of St. Louis: Mr. F., age 45, foreman; complains that for several years he has experienced pain in the right lower abdomen, together with gastrointestinal disturbance, indigestion and constipation. Two years ago the condition was diagnosed appendicitis and the appendix was removed, but without any relief to the symptoms. Afterwards arrangements were made for exploratory incision in the upper right quadrant of the abdomen, under the impression that there might be a gall-bladder or duodenal ulcer; this, fortunately, was deferred until after the consultation with Dr. Crandall. In his investigation the following were noted: Chest signs negative, abdominal signs negative except that there was definite tenderness in the right iliac region, the exact location in which there was subjective pain after working. This pain had, for several years, been of such intensity as to require him frequently to leave his employment and go home to lie down. It was further noted that the muscles of the right side of the abdomen were rigid to pressure and also when the pain was severe. Examination of the urine showed a few red blood cells, oxalate of lime crystals and epithelial cells. Under the tentative diagnosis of stone at some point in the urinary tract, an X-ray photograph was taken, which showed a small shadow in the lower part



Fig. 7.

of the *left ureter*, a short distance from the bladder. This was interpreted as a stone; it was removed by incision, after which the patient recovered and has had no symptoms of the trouble since. Evidently, symptomatology in this case was plentiful enough, but decidedly erratic and delusive. A correct deduction could not possibly have been made from it alone.

Renal and Ureteral Calculi, the X-Ray and Ureteral Catheterization. While we will not be able to go into the subject extensively, there are some points under this heading that I wish to touch on. One often hears, in medical discussions, strong expressions of opinion as to the "best" means of arriving at a differential diagnosis of calculus of the upper urinary tract, some announcing allegiance to careful analysis of the symptomatology for that purpose, others estimating the X-ray as all-sufficient, and still others placing their reliance on the use of the ureteral catheter. It is my belief that all three of these positions are untenable and incorrect, in individual instances; that a safer, fairer and broader position demands that we use *all* of the methods and means at our disposal, in suspected cases, and employ our time to better advantage than in discussing which is the best one. There is no doubt that each of the three means and methods mentioned above as the "best" may, at times, be misleading and lead to wrong conclusions, if accepted as final. The symptomatology of urinary stone is notoriously misleading, not a few instances being recorded in which the complaint is wholly referred to one side while the stone is located in the opposite kidney; and of others in which on autopsy, a kidney is found to be wholly destroyed from sacculation, etc., without there having been any especial complaint on the part of the patient during life. In either instances symptomatology is deficient for attaining diagnosis or differential diagnosis.

There are many instances in which there is marked complaint of ureteral colic on one side, the ureter catheter passes up a part of the way on that side and seems to be obstructed at a certain point—"the very place where the pain is," the patient may announce when that point is reached; and the suspicion of ureteral calculus at that site may apparently be strongly confirmed by this finding. And yet there may be no stone there or at any point in the urinary tract. The apparent obstruction to the passage of the catheter may be due to a sharp bend in the course of the ureter or to the catheter catching in a fold of its membrane, to be overcome by the use of a catheter of a different size or curve, or by an exchange in the mode of catheterizing—

from the direct to the indirect method, sending the catheter into the ureter at a different angle and conducting to its more ready threading of the channel and making the ascent without obstruction. The marked variations in the curvature of ureters is shown by some of the X-ray photographs of them in my collection, illustrations of which are presented (Figs. 6 and 8.)

Among the most interesting pitfalls to be encountered in this work are those now to be adduced: *The demonstration of shadows, simulating calculi, and apparently in the upper urinary tract, in a ureter or a kidney.* The vaunted X-ray, almost noble in its mighty potency, is guilty of this dreadful *faux pas*, no matter how stoutly its adherents may proclaim to the contrary. Its testimony, taken alone and unsupported, is not to be relied upon in these cases, and he who does rely on it exclusively is in danger of finding himself in the embarrassing position of opening a kidney or ureter for the purpose of extracting a stone that does not exist. Witness the experience of so experienced a diagnostician and operator as Mr. Rigby, of the London Hospital, as related in the *Annals of Surgery*, 1908: A male patient from whom a stone had previously been removed, was admitted into London Hospital February 14, 1907, the present symptoms having begun in the previous month. They consisted of aching pain that radiated down along the course of the left ureter and involved the left testicle. "The pain was always present but sharp exacerbations occurred two or three times a week. There was also pain in the glans penis after micturition; no hematuria. The urine contained a trace of albumin and some pus. A radiograph showed an indistinct shadow apparently due to a stone in the juxtavesical portion of the left ureter. On February 22, 1907, the pelvic portion of the left ureter was explored by the pararectal route. The ureter was found easily. It did not appear to be abnormal. A small longitudinal incision was made in its wall and a ureteric bougie passed down to the bladder and up to the pelvis of the kidney. A stone could not be felt. The ureteral wound was sewed up and the patient recovered and obtained complete relief from his symptoms."

Byron Robinson (*Med. Herald*, August, 1904), relates the history of a similar case in which he opened, and while I have in mind a number of cases that confirm the position I take in this matter, I shall mention only one as further illustrating the fallacy of the X-ray if used exclusively and without the advantage of ureteral catheterization.

A young woman of St. Louis began suffering from severe pain in the right side of the abdomen



Fig. 8.

one year ago. It became so severe and persistent that it was diagnosed as appendicitis and the appendix was removed. But the pain persisted. A general practitioner was called into consultation, he and the general surgeon having charge of the patient then for nearly a year without arriving at a definite and satisfactory diagnosis. At their suggestion, in November, 1908, an X-ray photograph was taken, shown in Fig. 5, which, taken in connection with the evidences obtained up to that time, appeared to be very significant. It showed three shadows in the mid-line of the pubic region and a fourth apparently in the course of the lower ureter, low down. No shadows in the right ureter or kidney. The conclusion was reached, that if these were shadows of calculi, they indicated three stones in the bladder and one in the left ureter towards its lower end; and in all probability represented a case of transposed pain, in which the pain, although referred to the right side all of the previous year, was really coming from the left side—the left kidney and ureter.

At this time I was called into consultation with the two gentlemen, and was shown the X-ray plates with the above findings. With native Missouri instinct, I desired to be shown further evidence before committing myself on the diagnosis. We then carried out the following procedure: Inserting the cystoscope, we could see, as plain as day, three calculi about the size of a pea, lying in the base of the bladder, confirming definitely the previous X-ray plate; catheters armed with copper wire stylets were then introduced into the two ureters up to the pelves and another X-ray was taken (Dr. Carman). (Fig. 6.) This picture showed the four shadows, also, but, more important still, it presented the fourth shadow a half or three-fourths of an inch distant from the left ureter, instead of in its course; and was clearly, therefore, no calculus but probably a phlebolith, an "innocent bystander," so to speak. The three vesical stones were easily removed by means of my operative cystoscope.

The origin of the three calculi recognized in the bladder was not yet made clear, and would not have been made clear by the X-ray evidence, alone, any more than the four shadows were explained by the X-ray. They must, of course, have descended from one or the other of the kidneys, but which? The cystoscope and ureteral catheterization defined that as clearly as possible. The left ureteral orifice was normal; the right was widely patent and moderately congested, with pouting lips. The left ureter catheter gave clear, healthy urine, free from pathological con-

tents; while the right drained cloudy, purulent urine, and the right pelvis was demonstrated to have considerably more than the normal capacity—all going to identify the right side as the source of the calculi, the pyelitis and the prolonged suffering.

Since writing the above, another case has been referred to me in which the appendix was removed in the belief that it was the originator of the intense suffering experienced in the right side of the abdomen by a female patient. The appendectomy afforded no relief from the pain; during three weeks following it chloroform had to be given eight or nine times, and for one or two hours at a time, to alleviate the excruciating agony, as related by the physician in charge. Ureteral catheterization plus X-ray with stylet catheters excluded stone and defined the diagnosis as one of colon bacillary infection of the right kidney pelvis and ureter; and repeated irrigations of these organs with argyrol through the ureter catheter gave prompt and continued relief.

I recently had a third case in which there was colon bacillary infection of both kidney pelves, without calculus; the right was suppurating to a moderate degree, while the left sent down such masses of pus and bacteria that a glassful of urine passed voluntarily gave a sediment of about one-third to a half in bulk. At first sight it seemed that there was little hope of saving the left kidney, so seriously was it involved; but frequent pelvic lavages through the ureteral catheters afforded unexpectedly prompt and great benefit, so that he was sent back to his physician within two weeks after his arrival, showing urine, then that was only slightly cloudy.

In our collection of X-ray plates are a number in which shadows appear to be in the line of a ureter (Fig. 7), and in connection with appropriate symptoms, might readily be interpreted as meaning ureteral calculi; but use of the ureteral catheter, with and without the wire stylet and X-ray, has shown them to be nothing more than phleboliths or calcified glands, etc. (Fig. 8.)

The comparatively low esteem in which cystoscopy and ureteral catheterization seem to be held by general surgeons and others of the present day appears in a survey of the late literature on the subject. For instance, in reviewing a most excellent contribution on the subject by Deaver, Dr. W. D. Haines, in *Lancet-Clinic*, p. 642, 1907, makes this his opening remark: "The diagnosis of ureteral calculus by means of certain definite symptoms, confirmed by X-ray findings and operation, in the past few years, has demonstrated that stone in the ureter is not so infre-

quent as was formerly supposed." The important bearing of cystoscopy and ureteral catheterization in developing present day knowledge on the subject, not even being mentioned, you note; and in the paper of Deaver, of which this is a review, scarcely more credit is given these factors. It is therein declared that "the difficulty in reading symptoms pertains rather to localization than to the presence or absence of stone; and he agrees with Freyer, who says that kidney and ureteral stone symptoms are so nearly identical as to render differentiation impossible, judged from a symptomatic standpoint." Both of these eminent gentlemen agree in these deductions, according to Dr. Haines, and likewise commend the practice of exploring the kidney when in doubt, passing a sound down the ureter before concluding the search for stone. Just why it is preferable to sound a ureter through a surgically opened kidney, rather than through the bladder by means of a cystoscope, with the several organs intact, is not explained.

In a paper on "The Diagnosis of Surgical Diseases of the Kidneys" (Lancet-Clinic, March 3, 1906), by my friend, Dr. J. Garland Sherrill, the author reminds us of old times when he says: "The differential diagnosis between pus from the kidney and purulent cystitis may be made with fair accuracy by thoroughly washing out the bladder until the water runs clear, then after a few minutes delay drawing off the urine which has collected. If this specimen shows pus in about the same proportion as the former one, we may feel assured that we are dealing with a renal pyuria. If on the other hand the urine is clear, we may know that the trouble is located in the bladder." When compared with the definite and precise methods of cystoscopy and ureteral catheterization, this method reminds me of the plan I once heard advised for diagnosing the sex of a canary bird: To get up early in the morning, secure a fat, attractive-looking worm and give it to the "suspected" bird; if he eats it, it is a male; if she eats it, the sex is feminine.

Although we are not expected to deal with the *treatment* of ureteral calculus in this paper, I cannot refrain, in this connection, to question the position, almost universal with general surgeons of the present time, to ignore the claims for recognition of *cystoscopic* operative methods for the removal of a certain proportion of calculi that lodge or become impacted in the lower end of the ureter. Practically the only methods advocated for such removal are the several cutting operations, through the vagina, the abdomen, the bladder, etc., in the face of the fact that with-

in the past few years a large number of stones have been removed from the lower ureter by non-cutting manipulations through the cystoscope. In the city of Cincinnati, in 1904, before the Mississippi Valley Medical Association, I had the honor of presenting a detailed "Report on Operative Work in the Ureter Through the Catheterizing and Operative Cystoscopes," later printed in the Lancet-Clinic of March 4, 1905; in which was described the several instruments and appurtenances and the planned campaign that I had devised for the purpose indicated in the report, together with relation of experiences that had been met with up to that time. That further experience, as well as that mentioned in the report, has amply justified the position then taken with regard to the method, may be inferred from the collection of calculi which I now show, which were removed in this way, and without any cutting or heroic measures being adopted.

The position taken then and now, is that if such stones are amenable to removal in this way, it is far safer and for many reasons more acceptable to patients than any of the more heroic, cutting methods, and they are capable of being removed in that way in numerous instances.

However, our chief concern at present is with regard to urinary diagnosis. It is evident that, from lack of time if for no other reason, one cannot review all of the pitfalls lying in wait for the urinary diagnostician; but I have thought it possibly worth while to submit the above considerations in the hope that they may point the way to surmounting some of the difficulties and simplifying some of the problems connected with the subject. If any one lesson be contained in a candid study of the subject, it is the necessity of subjecting to the scrutiny of direct, methodic, scientific investigation, rather than to futile analysis of symptoms, all obscure or difficult urinary cases; together with the recognition and avoidance of the numerous pitfalls that lie in the path of the unwary in this field of work.

1050 Century Building.

Intravenous saline infusions in too large volume are harmful by the production of congestion of the internal viscera. One to one and a half pints is enough for an adult of average weight.

—Surgical Suggestion.

Catheterization sometimes makes the evidences of "appendicitis" or "abdominal tumor" vanish with the escape of the urine from the distended bladder.

—Surgical Suggestion.

THE RADICAL OPERATION FOR CANCER OF THE UTERUS.

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[Read before the Ohio State Medical Association.]

The evolution of the modern radical operation for the cure of cancer of the uterus has kept pace not only with the general evolution and progress in surgery, but with the modern conceptions of the pathology of cancer as well.

Attempts at the cure of cancer of the uterus by vaginal hysterectomy are recorded, early in the nineteenth century; thus we find that in 1813 angebeck made a vaginal hysterectomy for uterine cancer. Sauter in 1821, was the first to deliberately remove a cancerous uterus by the vaginal route. After these first attempts at cures by hysterectomy, isolated instances of operations for this terrible disease are on record, but none however, were followed by any great success. The real beginning of the evolution of the modern operation begin in 1878, when W. A. Freund, of Breslau, reported the first abdominal radical method. In the same year Freund was able to report five other cases. Von Rosthorn (Journal American Medical Association, December 8, 1906, page 1875) tells us that he saw one of these patients exhibited at Breslau in 1904. The patient was well twenty-six years after the operation. This case is all the more remarkable as having been diagnosed at the Breslauer Pathological Institute as "Tubular carcinoma of the vaginal portion of the cervix, with isolated cancer of the fundus."

In the same year, Czerny, of Heidelberg, originated and published his method of vaginal hysterectomy for cancer of the uterus.

The effect of these publications was to stimulate a great enthusiasm among surgeons everywhere. It was found, however, that a very high primary mortality rate accompanied the abdominal method, (74 per cent, Kleinwachter; 71 per cent, Gusserow) and that the operation by the vaginal route was much safer, having a mortality rate of 32 per cent. The greater safety in the vaginal route lead for a time to a general abandonment of the abdominal method. The vaginal method was championed by Schroeder, Billroth,

Martin Mikulicz, Olshausen, Schauta, Chrobak, and others.

A number of modifications of both methods were soon published. The most important modifications were for the most part the attempts at broadening the scope of both methods of operation. Dührssen made lateral incisions in the vagina as far as the introitus to facilitate the removal of the parametric tissues, Schuchart's para-vaginal incision was for the same purpose. Mackenrodt covered the carcinoma by flaps from the anterior and posterior vaginal walls, and used the Paquelin cautery for making all incisions, constituting what he termed Ingi-extirpation. This operation he later abandoned in favor of the radical abdominal method.

John Byrne, of Brooklyn, made high amputations of the cervix and vaginal hysterectomy with the Galvano-cautery. (Transactions American Gynecological Association, 1889, Vol. IV., 1892, Vol. XVII.)

Richelot and Pean avoided ligatures and introduced the clamp method of vaginal extirpation.

The vaginal hysterectomy for cancer is still practiced by Olshausen, Chrobak, Schauta, Pozzi and others. All, however, attempt to broaden the field of operation, and endeavor to imitate the radical features of the modern abdominal route. At the present time the best reports which we have of the vaginal method are those of Shauta (*Die erweiterte vaginale total-extirpation des uterus bei Kollumkarinom Wien, 1908*).

Combined vaginal and abdominal methods were also advocated. The type of operation described by Werder, of Pittsburg, is the best example of this class. Pawlick in 1888 and Howard Kelly, 1892, placed ureter catheters in the ureters in order to recognize and protect them during hysterectomy.

To Emil Reis (1895) is due credit of widening the scope of the abdominal radical operation, by centering the attention of gynecologists on the lymphatic glands. Reis claimed that over 50 per cent of the patients operated for uterine cancer showed involvement of the glands, and proposed a free dissection of the ureters to their entire length in the pelvis, in order that the glands and parametric tissues could be removed. Rumpf and Clark with Ries almost simultaneously advocated the same procedures.

Wertheim, of Vienna, since 1899 has made careful studies of the subject and has developed a technique of operation which has become the recognized standard for the abdominal radical method. His method consists in placing the patient in an exaggerated Trendelenberg position, making a median incision and packing away the

intestines. Two incisions are made parallel to the ureters on either side of the uterus, the incision being made through the peritoneum on the posterior and lower aspect of the broad ligament and the ureters are dissected free, the broad ligaments are then ligated and severed, and the bladder and rectum dissected free. The dissection is made to the outer side of the ureters and all of the parametric tissue is removed. The vagina is clamped by two special right-angled clamps and divided; the application of these clamps prevents contamination of the wound. The pelvis is packed loosely with gauze and the peritoneum is closed over the raw surfaces.

Bumm has made a very valuable modification of this operation by locating the ureters *more quickly* through an incision paralleling the round ligament running between it and the Fallopian tube.

Mackenrodt, who has done much to perfect the operations for cancer of the uterus, introduced the transverse abdominal incision and he also sews the peritoneum from the upper part of the abdominal incision across the top of the pelvic cavity, thus rendering the operation extra-peritoneal and thereby avoids the danger of peritonitis.

Bier's method of spinal anesthesia, as soon as it became safe and practicable, was adopted for this operation by Wertheim, Doederlein, Kronig, Mackenrodt, Bumm, von Rosthorn and others. Doederlein has combined the scopolamin-morphine, anesthesia, with that of spinal anesthesia, for this operation, with excellent results.

Recently Werder, of Pittsburg, and Noble, of Philadelphia, have strongly advocated an abdominal method, combined with the use of the Downe's electro-hemostasis clamps. They give as arguments for this method the result obtained by Byrne, with the galvano-cautery, and the high primary mortality of the Wertheim operation.

The abdominal radical extirpation of cancer of the uterus may be said to be still in the process of development. Sufficient time has not elapsed in which to draw definite conclusions, but this fact remains, that up to the present time, our experiences with operations for cancer in all parts of the body proves that an operation, which gives the least number of recurrences, must conform to the following general principles, namely:

"The complete removal of the diseased organ, together with as much of the surrounding tissues as is possible, together with the removal of the regional lymphatic glands which drain the part affected."

A careful review of all the methods used for the eradication of cancer of the uterus shows that

better results are obtained by the radical abdominal methods than by any other.

Wertheim (Surgery, Gynecology and Obstetrics, January, 1907) states that he obtains freedom from recurrence for five years, in 60 per cent of his cases, and that while his former primary mortality was high (18 to 20 per cent) he was able to report 100 cases with only eight deaths (8 per cent) and of these only six directly traceable to the operation.

While the results generally obtained with this operation are far inferior to those of Wertheim, yet there are at present many operators who obtain results equally as good (Mackenrodt, Doederlein, Kronig, von Rosthorn, Kuestner).

Doederlein and Kronig give the average operative mortality rate at 12 to 15 per cent, while Veit (Berlin, Klin. Wochenschrift, June 24, 1907) states that the mortality by abdominal extirpation is no greater than that by the vaginal methods. With improvements in technique and greater familiarity with the operation, the writer is of the opinion that the operation will become as safe as ordinary hysterectomy.

In estimating the value of this operation and its primary mortality it must not be forgotten that its range of indication is greater, thus making the percentage of operability of all cases much higher than by the vaginal methods. In general it may be said that 25 per cent of all cases of uterine cancer are amenable to operation by the vaginal route, and 50 per cent by the abdominal route. A few operators have a higher percentage than this. Thus, Mackenrodt operates 90 per cent of all cases, Doederlein 69 per cent, and Kuestner 70 per cent.

Even though the primary mortality of the abdominal operation is greater than that of the vaginal operation, it would seem that the latter operation is to be preferred.

The situation is expressed by Kuestner (Lehrbuch für Gynecologie, page 270) as follows: "The higher primary mortality by the abdominal route is over-compensated by the greater percentage of operability of the cases. The example is simple, viz.: With the abdominal route Kuestner is able to operate on 70 per cent of all cases presenting themselves for operation and of these 20 per cent die from the operation. By the vaginal route Kuestner is able to operate on only 40 per cent and of these only eight per cent die from the operation. In other words in 100 cases of cancer of uterus, 70 were operated upon by the abdominal radical method, of which 14 died, and of the 40 per cent by the vaginal method there was a mortality of 3.2. Therefore 56 per cent of all cases recover from the abdominal operation,

while only 36.6 per cent of all cases recover from the vaginal.

The chief reason for the high primary mortality accompanying the radical abdominal operations for uterine cancer may be summed up in one word, i. e., "shock."

This shock may be due to any one or more of the following causes:

1. Inaccessibility of the deep pelvic structures, causing rough manipulations.
2. Manipulation and exposure of the abdominal viscera, particularly the small intestines.
3. Hemorrhage.
4. Prolonged operation with subsequent prolongation of the anesthesia.

All of these dangerous factors for the most part are eliminated when spinal anesthesia is employed, either alone or when combined with a general anesthesia.

Spinal anesthesia is especially adapted for this operation. When it is employed the abdominal muscles are temporarily paralyzed and are extremely relaxed. As soon as the incision is made and the pelvis of the patient elevated, the intestines curiously enough gravitate away from the field of operation. Thus, the parts to be operated are rendered accessible and manipulation of the small intestines is reduced to a minimum. Spinal anesthesia also materially shortens the time of operation and permits of a more accurate hemostasis, preventing in this wise to a great extent the danger of secondary hemorrhage.

To the essayist the most important feature of spinal anesthesia is the prevention of shock, by "blocking" of the cord. Thus the afferent impulses or sensations produced by the operation cannot be referred to the peripheral vaso-motor centers and nerves and thus produce shock. The same state of affairs prevails as it does in Crile's method of "nerve blocking" in amputations of the thigh, only it exists on a larger scale.

I have repeatedly had patients leave the operating table with a pulse of 70 or 80, after the radical abdominal cancer operation as well as after other severe operations, the operation apparently having no effect on the pulse rate.

Even in those cases where it is necessary to complete the operation with a general anesthetic, the good effect of the spinal anesthesia, namely relaxation of the abdominal walls, and "blocking" have prevented post-operative shock, and any increase in the pulse rate.

As to the safety of spinal anesthesia, it may be said to be about as safe as chloroform but more dangerous than ether. Deaths are estimated as occurring from its employment in about one in

2000 times. With recent improvements in the solutions and technique, it is becoming still more safe.

The method of procedure employed by myself is a combination of Bier's spinal anesthesia, with Bumm's modification of the Wertheim technique, in which the vaginal vault is left open, and early post-operative X-ray treatment instituted.

It is carried out as follows: Patient is given one-fourth gr. of morphine with one one hundred and twentieth gr. of atropine hypodermically about one-half hour before operation. In some cases an additional dose is given about and one-half hour before operating. The patient sits upon the lower end of the operating table with her arms folded and resting on her thighs, and with the back and spine made convex. The entire skin of the lumbar region is then rendered aseptic and painted with tincture of iodine.

A Record syringe of 10 c. c. capacity, with the regulation Bier needles, which have been prepared by boiling, are used for the injection. A glass ampule containing 2 c. c. of a 5 per cent solution of tropacocaine in 0.6 per cent solution is placed in a bichloride of mercury solution, to render the ampule aseptic for handling. One c. c. is drawn into the syringe. The spinal puncture is then made by inserting the needle between the third and fourth lumbar vertebrae, the canula being withdrawn and about 10 or 12 c. c. of cerebro-spinal fluid being allowed to flow out (this must flow freely). The syringe is now attached to the needle, the piston withdrawn and the 1 c. c. of anesthesia solution is diluted with the cerebro-spinal fluid up to about 10 c. c. The entire contents of the syringe is now slowly injected, and the needle withdrawn. The puncture is sealed with collodion, and the head of the table is lowered about six inches for a few minutes. While waiting for the anesthetic to take effect, which occurs in from three to five minutes, the patient is placed in the lithotomy position and the vaginal preparation is finished. The extremities and abdomen as high as the ensiform cartilage, in the meantime will have become anesthetized. After rendering the vagina aseptic, the carcinomatous mass is curetted away, and thoroughly cauterized with the Paquelin. The uterus is then lightly packed with gauze the patient placed in the horizontal position and the final abdominal preparation made. The head of the table is now lowered until an exaggerated Trendelenberg position is obtained. A median incision from the pubes to the umbilicus is then made, and abdominal cavity opened. As the abdominal walls are relaxed and paralyzed, the intestines quickly gravitate toward the diaphragm: they are

then covered and held in this position by very hot gauze packs. A self-retaining abdominal retractor is now placed in position, which greatly facilitates the subsequent work. My own retractor was originally designed for this special purpose. (Surgery, Gynecology and Obstetrics, October, 1907, pages 447, 448.)

The fundus of the uterus is grasped by a double tenaculum, care being taken not to squeeze or compress the uterus with this instrument. The infundibulo pelvic ligaments, including the ovarian vessels, are first ligated on either side. Bumm's incision for quickly locating the ureters, is made, first on the right side, running outwards and forwards, between the round ligament and the fallopian tube. This incision goes through the peritoneum and the cellular tissue. The latter is separated by blunt dissection down to the ureter. As this incision crosses the ureter at right angles, one can hardly avoid finding that organ immediately. The uterine vessels and any enlarged glands can be seen or felt at this stage of the operation, the glands are removed and the artery ligated. The same procedure is carried out on the left side, the fallopian tubes and ovaries being removed with the uterus. Bumm's method of finding the ureters is much better than Wertheim's, the ureters being found more quickly and the operation is thereby shortened and shock lessened.

The peritoneum covering the bladder and uterus is next incised and the bladder pushed downwards, with dry gauze dissection.

The uterus and its appendages now are quite free and may be pulled upwards well into the incision to facilitate the next most important steps in the operation.

On the right side the ureter is dissected upwards as far as the bifurcation of the common iliac vessels, and downwards to its entrance into the bladder care being taken not to disturb its posterior attachments too much. Enlarged glands are removed as they are encountered. The uterine vessels on the right side are now tied to the outer side of the ureter, close to the pelvic wall. The same steps are now carried out on the left side.

As much of the cellular tissue of the pelvis as possible is now removed, cutting far away from the disease. This is done on both sides, cutting down to the sides of the vagina. This step is made with care, for often the diseased tissue are so friable as to cause an unintentional opening into the vagina or uterus. Great care must be exercised in keeping wide of the disease and in cutting through healthy tissue only.

When the uterus hangs only by the vagina, the

Wertheim's right angled clamps are applied and the vagina severed distally to the clamps. About one or two inches of the vagina are thus removed. These clamps effectually prevents contamination of the wound with the secretions of the infected carcinomatous uterus. Some bleeding is usually encountered from the vaginal arteries, but this is as a rule not troublesome if the uterine vessels have been secured.

The final steps of the operation consist in arresting of all hemorrhage, the further removal of any suspicious looking tissue, the covering of all raw surfaces with peritoneum, and the placing of three or four large rubber tubes (one-half in.) in the vaginal opening for drainage; these serve also to keep the vagina open for the subsequent Roentgen treatment.

This description briefly represents the normal type of operation. It is of course varied to suit individual cases. Involvement of the bladder or ureter can be dealt with by the recognized standard procedures.

The post-operative X-ray treatment is begun as early as is possible after the operation. This we commence as early as the third day and carry it out in a most aseptic manner, with the aid of an expert Roentgenologist.

The ideal position of the patient for vaginal X-ray treatment and the one which should be used later is the knee-chest position with ballooning of the vagina. This position is the only one that allows of thorough treatment.

For the first week or ten days after the operation the exposures are made with the patient in the lithotomy position, and the pelvis elevated. As soon as is possible the knee-chest position is used.

The Roentgenologist should, if possible, witness the operation in order that he may plan the after-treatment to the best advantage. In this wise, the more affected areas can be better treated.

About forty very thorough exposures are made in the after-treatment with the X-Ray.

The points in favor of the post-operative X-ray treatments after the abdominal radical operation for uterine cancer are:

1. The ray has shown that certain superficial forms of cancer are amenable to cure by its employment. The necessity of post-operative treatment of mammary cancer by means of the ray seems established. The morphology of carcinoma is recognized as being the same in uterine cancer as it is in the mammary gland or in cancer in any other part of the body.

2. Theoretically it would seem that if the pelvic structures could after operation be technically

rendered superficial, and directly accessible to the ray, the same results could be accomplished here as are obtained elsewhere.

3. The ordinary X-ray treatment of uterine cancer has proven itself a failure, but no extensive post-operative X-ray treatment of uterine cancer has heretofore been tried. Following the operation the muscular uterine body is not present to resist the ray. The shortened vagina and absent uterus and the knee-chest position favor and permit of the direct exposure and penetration of all the parts of the pelvis by the ray.

4. The technique when properly employed allows of direct treatment of every part of the pelvis, the dose can be easily regulated, and the tubular lead glass speculum, when properly directed to all parts of the vaginal fornix, permits of a systematic and thorough exposure in every direction.

5. Cancer of uterus does not have tendency to metastasis into other organs as do other forms of cancer. The statistics of Simmonds show that 51 per cent of all cases of uterine cancer die from local recurrences, with subsequent complications in the urinary organs, only 17 per cent from cachexia and general carcinosis, 15 per cent from pneumonia, and 10 per cent from peritonitis.

6. It is now an established fact that recurrence after the vaginal operation for uterine cancer occurs in the vaginal cicatrix; whereas in the abdominal radical extirpation the recurrence is usually in the lymphatic glands of the pelvis. The main object of thorough post-operative X-ray treatment is to obliterate these glands and thus anticipate and prevent any return of the disease.

IN CONCLUSION.

The main object of this paper is to emphasize the good results which are obtainable by the abdominal radical extirpation for cancer of the uterus and to make a plea for the more general employment, for by this method we operate around the disease and not through it; no other operation is comparable to this method.

Further that spinal anesthesia greatly reduces the operative mortality, and that thorough systematic post-operative X-ray treatment can be employed here just as efficiently as other forms of cancer.

DISCUSSION.

Dr. Sutton, Zanesville: I desire to pay my respects to the author of the paper which has just been presented, but I must say that I could not stand for all the things in the way of surgical interference which he advocated. I have been doing a little surgery for a good many years, but I have not made any such extensive dissection as he recommended on any living patients, and I doubt very much the advisability of such a

course, and I think men of his high standing should not come before a body of this kind and recommend such a radical work. A man of his skill and standing should admonish the rest of us who are not so progressive to remain conservative. Surgery to the surgeon is interesting to the point of fascination, and very extensive mutilation can be done with almost perfect immunity, so far as danger to health is concerned, but there is danger of going too far. I do not think it is possible to recognize cancer of the uterus positively early enough to do surgical work; I do not think it is possible to recognize it to a certainty. If we do radical operation in these cases I believe it is necessary to operate on a strong suspicion, and I believe the sins of commission are greater than the sins of omission in surgery along this line. I would admonish the younger men of the profession to go slow about dissecting up the uterus on both sides, and turning everything out from the heart down. I have been able to obtain the services of men of ability and considerable experience, men who have been trained in the best institutions in this country, and they have not been able to satisfy me by their reports that they can diagnose cancer by the microscope before it can be done macroscopically. I ran across a number of women in my city four or five years ago; I suspected strongly cancer of the uterus, took a scraping, in some instances a section, had them examined, and they reported no doubt there was a cancerous condition, and recommended a radical operation be done at once, and I conveyed their report to my patients, but they were fortunate enough to delay, and today they are perfectly well, with all the symptoms that we usually have preliminary to the microscopic findings. It is impossible to see it macroscopically, but they diagnose it microscopically, but they fail to convince me that it is a possibility.

Another point that I expected the essayist to bring out, and I want to express an opinion on (if he did I didn't catch it, although he has advocated it in some other papers recently), and that was trying to teach the laity—the women of the country—the early symptoms of cancer of the uterus. Now that doesn't strike me at all. It seems to me that we had better know something about it ourselves before we undertake to teach these poor hysterical women—lecturing to them on cancer of the uterus.

Rufus Hall, Cincinnati: Unfortunately I didn't hear the entire paper, just the last two or three sentences, and I take my cue from the remarks of the preceding speaker. I presume the author advocated abdominal extirpation of all cases of carcinoma of the cervix, with wide dissections, so as to include the enlarged glands, against the extirpation of the cervix by the vagina. I assume that was the real gist of the paper. Now I grant, we all know, that you can extirpate the uterus through the abdomen, you can safely enucleate the glands by exposing the ureters and pulling them aside, it is only a question of the ability of the operator to do so. But, gentlemen, is it just? Is it the best thing for the patient? I do not believe the statistics sustain us in advocating this very extensive operation, because the primary results following vaginal extirpation of the uterus are so much better and a larger per cent recover

than with this wide dissection. That is the first proposition.

Now the ultimate results of this wide dissection are not so much better for the patient, in the way of prevention of recurrence, than vaginal extirpation in these cases. In other words, about all of them recur and die, no matter which operation you do at the present time. The wide dissection gives them a little longer immunity in some cases, but you cannot assure the patient, or yourself, in any given case, that it will give them any longer immunity than a vaginal extirpation. Then why should you make this wide dissection? I cannot understand it, and therefore personally I advocate the vaginal extirpation. This is an operation which should be done, because of the immunity it affords for a year or two, or three, and the comfort it is to the mind of the patient. The ultimate result is better than to let her die without an operation. Therefore I do not believe the advocates of this wide dissection can sustain their position in the ultimate results of the operation.

Ed. Ricketts, Cincinnati: I take it for granted that the essayist in reporting his cases, that he waited in all cases until there are cancerous nodules in the uterus before opening up the abdomen, and then proceeded to dissect up the ureters and these glands. He doesn't operate until this condition has been arrived at. I think it is a late operation. The point I want to make is that he is advocating a late operation, if I understand the essayist right. He curetted out the cancerous nodule, and then proceeded to do his abdominal work. Mr. Chairman, the ureteral catheters of Kelly, it is unfortunate that they were ever invented, for I have never yet seen a case in which it was necessary to use the ureteral sound, and in doing an abdominal operation, infection may take place, which results in more harm than good. Like the last speaker, I cannot understand sir, these wide dissections coming from Wertheim. After an experience of a number of years along this line, I will say that the dissections of Wertheim are beautiful from a scientific standpoint, but most disastrous from a practical standpoint. There are men who have just as good results in the use of the cautery alone, and there are men who have just as good results from the swallow tail operation that was advocated by the late distinguished Dr. Reamy. There are cases in which the uterus has been removed by vaginal hysterectomy, and I want to call attention to the fact that the shock following vaginal hysterectomy is far less than that following abdominal hysterectomy, which you must not lose sight of. I am pleased to see and know that the dissections on the living subject are carried on in many instances as though the patient were dead.

Geo. W. Crile, Cleveland: I was very much interested in the paper of Dr. Jacobson. It seems to me that he has covered the ground in a very admirable fashion, and I wish to discuss several points which Dr. Jacobson would have taken up if he had had more time. In the first place, I think cancer of the uterus must be considered from the standpoint of that individual case. Now, I take it for granted there is an extreme difference in the degree to which the

disease has extended at the time of operation, and consequently the location of the disease in the uterus. For example, cancer of the fundus of the uterus, in its early days, is a very curable disease, and I think there ought to be a difference made in the prognosis as to the location of the growth as well as the degree of its advancement. A very early case of cancer of the uterus, as a rule, gives a more favorable prognosis, but like cancer of the breast and elsewhere sometimes the virulence of the disease itself cannot be predicted. Sometimes a small cancer of the breast will be followed by internal metastases in a very short time, while a very large tumor may not show metastases at all. And I think this holds with cancer of the uterus; so that the type of the disease itself, the degree of malignancy of the neoplasm itself, the location of the tumor—all of them must be determined in the end results.

Now in the late cases of cancer of the cervix, one would do far better, when it is scarcely possible to produce a permanent cure, to curette out the large mass of cancerous tissue of the uterus. It is a minor operation, done under gas anesthesia, and the patient usually gains in weight, and one or two years added to life. I refer to this only in the cases in which the radical operation is not to be undertaken. Then when the radical operation may be undertaken, I believe we must trust the very large statistics that a greater number of permanent cures obtain by the abdominal than by the vaginal route. In my judgment with the vaginal route, in cases of cancer of the cervix, when the retractor cannot grasp the cancer itself, and the rough handling of the parts incident to the grasping, there is a mechanical forcing of the cancerous cells into the adjoining tissues. I have observed in my early operations by the vaginal route that there was a growth in all the surrounding zone, very much greater than would have been had the patient not been operated upon at all. I think it is perfectly clear in cancer everywhere you have local and regional metastases, and for that reason I think it is extremely hard to do the vaginal operation as carefully as we do the abdominal. Aside from that, one has a better chance to do a complete extirpation in the abdominal route.

Now as to the immediate results of the operations. I have operated over one hundred cases by the abdominal route; with few exceptions. The mortality has been six per cent and the operation that I have performed, as a rule, has been entirely performed at a certain step of the disease, and when it is in the fundus, one must make a very careful hysterectomy, preserving at all times the greatest care not to traumatize the cancerous tissue. Now, as to the remote results, I am very optimistic. I have not been able to obtain the results of Wertheim and some other surgeons, but I have been able to obtain a three years' cure in about twenty-four per cent of the operations. I think in forming a choice between an abdominal operation with hysterectomy, involving six per cent chance of mortality, and a permanent cure in one out of four, I think it is certainly a very good operation to propose.

Dr. House: This very important paper of Dr. Jacobson brings up a very important question, that is, a study of the mortality of cancer of the

uterus. Now this question is, does wide extirpation of the uterus and its broad ligament, with a considerable portion of the vagina, and a careful dissection of the ureters and extirpation of the lymphatic glands of the pelvis, justify the large mortality produced in the execution of this operation? I believe not. I believe with Dr. Crile that we must be governed in a large majority of the cases by the conditions found at the time of operation. If you have carcinoma of the cervix of the uterus, you are aware that those are the cases in which we get the best results. I have seen but one case of carcinoma of the uterus that got well after a hysterectomy. That case lived thirteen years, and finally died of cerebral apoplexy. That case was demonstrated to be an epithelioma of the cervix. In these cases I believe in wide extirpation of the broad ligaments and as much of the cancer-bearing area in the vagina as possible, but when you talk of splitting up the pelvic peritoneum and dissecting out glands that sometimes cannot be palpated, that that extreme trauma is going to count for the actual benefits which you would derive from a radical operation.

Dr. Jacobson: This discussion has covered a large field, and I cannot answer everything brought out. I think there is a very logical answer to every objection made. Together with the rest of the gentlemen who have discussed the paper, I formerly had a very pessimistic idea of cancer of the uterus, as to the results obtained. I have carefully investigated all statistics upon this subject, and I think Dr. Hall and Dr. Ricketts, who have objections to this method, will find that the statistics will show that the radical operation, such as I have described after Wertheim, and which is based upon our results with cancer in other parts of the body, gives the best results. The only problem we have to dispose of at the present time is how to reduce the mortality of the primary operation, and that is my reason for reading this paper, and I believe the methods advocated will do this, and are as safe as ordinary hysterectomy.

Clear fluid in the pleural cavity is not always indicative of lung or pleural disease. It may be due to a new growth of the mediastinum pressing on the venae cavae.

—Surgical Suggestion.

Twisting of the pedicle of an ovarian cyst often produces all the signs and symptoms of an acute or recurrent appendicitis.

—Exchange.

If patient complains of sharp pain in the big toe, examine the urine for albumin or sugar in order to exclude a diabetic or nephritic condition.

—Exchange.

In cases of unaccountable fever, especially in children, never fail to examine the ear.

—Surgical Suggestion.

THE ROLE OF THE MYOCARDIUM IN CHRONIC VALVULAR DISEASE.

G. A. FACKLER, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

He, who has assiduously studied cardiac pathology and symptomatology and has kept in touch with the current literature on these subjects, will rightly infer that no striking novelty can be expected under the title of this paper. Its preparation was stimulated by the desire to give prominence and emphasis to views expressed by a not insignificant number of authorities, chiefly Krehl and Romberg and their pupils, and based upon the results of their painstaking, trustworthy, scientific observations. It is but natural, though not excusable, that the assumed condition of the defective valvular apparatus is valvular disease as determined by physical examination predominates in the mental picture of the pathological state of the patient. Despite the efforts of many clinicians to insure due regard for muscular defects, the possible pathological state of the myocardium is excluded from consideration by many practitioners, who, then, are unable to find a ready explanation for seeming anomalies in the progress of their cases, for the strange variations in transitory and persistent states of cardiac insufficiency, for the apparent success or failure of their treatment in ostensibly similar cases and grow skeptical as to the general knowledge of heart diseases. Let them appeal to the myocardium and conceive its participation in the production of symptoms, let them learn the lessons taught in the laboratory and more especially in postmortem researches and most readily will they solve problems, which seemed beyond solution and explain conditions, which appeared inexplicable. My contribution consists of a review of such findings in the clinical and pathological department of the Cincinnati hospital. The limitation of this discussion to cases of chronic valvular disease premises that we are dealing with hearts, which are in some stage of hypertrophy. We must disregard the hypertrophy as it occurs in the normal heart, the result of general muscular work, exercise or growth, in which there is possibly an enlargement of muscle fibres, the process which in normal individuals begins at birth and continues through life and here exhibits a more rapid evolution and apparently a numerical increase. Histologically such hearts are sharply demarcated

from hearts hypertrophied as the results of valvular lesions, in which the overgrowth develops as a defense against pathological conditions. Simple volumetric and numerical increase in muscular fibres with no connective tissue alterations in the former are in contrast to the same changes in exaggerated form in the latter and associated with an increase in sarcoplasm and interstitial connective tissue. It is the last mentioned process and its results which puzzle us in many cases as to the role to be assigned to it in estimating the damage to the anatomical structure and working capacity of the heart. A slight increase in interstitial tissue in hypertrophied hearts with no discernable degenerative changes in the muscle fibres cannot contribute to a weakening of the cardiac walls. On the other hand a marked diffuse augmentation of such tissue and its dire effects upon muscle fibres is clearly guilty of damaging influence. Between these two extremes through various gradations of the process, then, the offensive and inoffensive changes occur, readily determined as they approach either extreme. Unmistakably characteristic of the inflammatory type is the distribution of the fibroid process in small areas throughout the myocardium. While a hypertrophied heart can probably never be regarded as good as a normal heart, it will serve our purpose best to now distinguish between the heart, in which the condition is unattended by pathological processes except those of exaggerated growth, and that heart, in which functional exhaustion has occurred or the working capacity has been directly impaired by pathological changes in the muscular structure. There has been a general acceptance of the view that the cardiac muscle hypertrophied as the result of valvular lesions becomes gradually exhausted, unable like the normal heart to overcome the increased demands made upon it. Experimental investigation and observation have not definitely proven that the hypertrophied heart muscle, aside from its compensation for valvular defects, is in a measure like the normal heart competent to perform additional increased work. Clinical observation speaks rather for an approaching equality of working capacity of normal and simple hypertrophied hearts. Hence, like the normal heart under normal conditions, the hypertrophied heart under its changed conditions furnishes its quota of propulsive power if the demands made upon it by the valvular defects remain within certain limits. Again we meet the contingency of compensation being sustained unless the myocardium becomes dilated by functional or pathological changes, which are the factors accountable for deviation of cardiac capacity from normal.

Pathological changes come under the heads of parenchymatous degenerations, i. e., granular, hyaline and fatty degenerations, which are rarely overlooked in postmortem examinations. More frequently than accepted or accredited are interstitial myocarditis and changes in vessel walls. Here again I wish to distinguish between the increase of connective tissue due to pressure, a condition presupposing destruction of fibres and secondary connective tissue increase, and that which is of paramount interest in this discussion, i. e., interstitial connective tissue increase and alterations due to irritation, as produced by continuity of inflammatory processes in the peri or endocardium, or by continued or repeated attacks of toxic agents, as in rheumatism and infectious diseases. In a comparatively large number of cases from insignificant beginnings more or less extensive disease of the myocardium develops. "Repeated inflammatory processes are marked with accumulation of round cells in the interstitial tissue. The infiltration is more marked underneath the endocardium and pericardium and spreads from there to the muscle. At a later stage embryonal connective tissue containing an abundance of cells is found in the intervals between muscle fibres. The connective tissue gradually becomes denser and cellular elements fewer. The muscle fibres contained within degenerate and atrophy in various ways. A long series of intermediate stages results in the well known fibroid patches or hard cicatrices." Let it be born in mind that the proliferation of connective tissue and its destructive action upon muscle fibres are of inflammatory origin and the disappearance of the fibres not the primary event.

Aligned with this as a causative factor in the production of serious myocardial changes is extensive involvement of the coronary arteries. "Coronary sclerosis is undoubtedly a great intrinsic factor to which such changes may be attributed, producing its effects by interfering with adequate blood supply. The influence of coronary disease over nutrition of the heart stands in direct relation to the degree of sclerosis and the rapidity of its development. If the lumen of the arteries be gradually narrowed the result is the development of a fibrosis or fatty degeneration, a fibroid periarteritis being probably the initiating step. If the thickened and narrow branch suffers sudden thrombosis, acute softening of the part supplied occurs." In young persons especially the arterial disease begins with inflammatory infiltration as observed especially in infectious diseases. This means probably increased connective tissue of the adventitia and, secondarily, disease of the media and intima. Further-

more, thrombosis of numerous arteries plays an important role as the accompaniment of rheumatic endocarditis.

Thus repeated emphasis is placed upon fresh inflammatory states, which are established in the already diseased heart, often coincident with recurrent endocarditis, their occurrence and development probably encouraged by the unfavorable circulatory disturbances incident to valvular disease. Thus distinct from valvular lesions, the extent and nature of myocardial disease stands in no relationship to the kind and duration of valvular disease. Anatomical changes may be very marked in cases of insignificant defects or those of short duration, while slight structural changes in the muscle may accompany old standing or high graded lesions of the valvular apparatus. In endeavoring to estimate the effect of anatomical changes upon the heart's action we must consider the extent of the disease. Individual fibroid patches may be insignificant, yet they may be present in such large numbers that the muscle mass is diminished and complete and prompt contraction of the heart hindered thereby. The more extensive the loss in muscle fibre and gain in new formation of connective tissue, the more incomplete the cardiac contraction. Disease of the arteries likewise impairs the capacity of the heart. The various changes in the vascular walls with consequent decrease of elasticity and lumen hamper the blood supply to the myocardium. This is especially noticeable when greater demands upon cardiac power requires increased contractile power and blood supply. Aside from the nature of the change, the localization or distribution of the site of the disease in the myocardium determines the conduct of the heart. Especially must we expect serious results if a process of any kind involves the bundle of His or its ultimate ramifications, the Purkinje fibres, upon which the rhythmicity of the heart's action depends. "This system of fibres, forming a complete skeleton of undifferentiated muscular tissue, serves the purpose of originating the impulses at the origin of the great veins and conveying muscular impulses to various parts of the heart." Microscopic examination of the myocardium will demonstrate that collapse of heart muscle can in the majority of cases be satisfactorily explained by the anatomical alterations of its structure. This view is strengthened by the fact that in valvular lesions, in which death is not attributable to ruptured compensation but to other incident causes, no such changes are manifest.

To attribute every deviation from the normal heart's action to deficiency in the myocardial structure would be an extreme claim. Without

doubt functional disturbances play a decided role in a fair percentage of cases. Even in health after increased function a condition develops in the heart muscle, which is closely related to insufficiency and is known as fatigue, a diminished functional capacity which follows severe exertion. Such a fatigued heart requires a certain time to recuperate. The condition of fatigue is therefore transient and presupposes recuperation. A hypertrophied heart, however, which under ordinary demands labors normally, becomes fatigued under extraordinary demands just as the normal heart, but recovers more slowly.

Let there be a slight transgression beyond the power of inherent resiliency and the act of overdistension of the muscle is reached and followed by cardiac insufficiency. This may occur in the absence of pathological changes in the myocardium, unless we regard the usual slight increase in interstitial connective tissue, which has been noted as the accompaniment of simple hypertrophy, a pathological state. Whether cardiac failure is due to disease of the myocardium or to functional disturbances cannot always be determined during life.

An appeal to the records of the Cincinnati hospital furnishes us with data which are impressively corroborative of the general assertions heretofore made. A journey through the files in the library of the period from April 1, 1907, to April 1, 1909, brought to light 179 cases in which either a clinical diagnosis of acute or chronic valvular disease was made and recorded with the postmortem and microscopic finding, or cases in which postmortem and microscopic examination disclosed myocardial disease, although neither clinical record nor the pathologist's report suggested the existence of valvular disease. Of this entire array of histories 33 have been selected, which because of the completeness of the record permit no question as to the diagnosis of valvular disease of chronic nature, since this was verified by autopsy. In each instance the clinical record is supplemented with the report of the pathologist covering the microscopic appearance of the heart and its sections, together with his diagnosis based thereon, and the report of the microscopic examination conducted in the laboratory.

In eleven cases parenchymatous degenerations, usually fatty, rarely hyaline, were clearly marked, associated in diverse instances with vessel change and connective tissue increase. In one case marked muscle fibre segmentation is recorded. In one case no anatomical changes are noted, in another but slight increase in interstitial connective tissue. The disclosures of the examinations

in nineteen cases demonstrate convincingly that the interstitial connective tissue was the seat of primary attack of deleterious influences. A detailed description of these 19 cases with finishing comments would far outreach the time limits of this paper. Hence a curt generalization of the conditions revealed must suffice, as I believe it will, to furnish a vivid confirmation of the statements presented above. The microscopist's report shows increase in connective tissue in each of the 19 cases, complicated in four with clearly marked alterations in the vessel walls. Round cell infiltration is cursorily mentioned in quite a number, but its occurrence in marked degree referred to in only three histories. Deteriorating alterations in muscle fibres, varying in degree and distribution, attended the connective tissue increase in every case. The latter process was diffuse in six cases, associated in a few instances with a thinning of the walls. In thirteen cases fibrous degeneration in circumscribed areas distributed throughout the myocardium marked the sites of antecedent inflammatory attacks. In each these changes were of sufficient extent in total area to impair the integrity or working capacity of the heart and lead to incompetency because of their own restrictive effect upon the resiliency of the cardiac muscle and destructive action upon the muscle fibres. In successive records we read under the head of microscopic examination of the myocardium and its muscle fibres, the stories of "granular degeneration, broken down cells, outlines and striation of muscle fibres hardly visible, fibres stain pale, separation of muscle bundles, or the heart muscle fibres are long and slender, nuclei small and faint with inter-muscular septa displaced by wide spaces." The fatty changes were also irregularly distributed in some, in others chiefly exhibited in the sub-epicardial tissues and in several a combination of fibrosis, fatty degeneration and overgrowth of connective tissue was present. Can such observations be employed to sharpen our diagnostic acumen in the clinical study of heart cases? Unfortunately only in a restricted sense. If we should attempt to select the most important clinical manifestation of myocardial involvement not dependent upon the condition of the valvular apparatus, we would probably drift to disturbed cardiac rhythm. Irregularity and inequality of the pulse, the more infrequent modifications as the pulsus bigeminus, galop, etc., are frequent accompaniments of more or less developed cardiac weakness. But we meet with chronic valvular lesions, which throughout their entire existence show irregular rhythm without signs of cardiac incompetency, and in contrast, severe compensatory disturbances with-

out arrhythmia. Hence, cardiac muscular weakness and arrhythmia are not always associated, their association being probably, if not surely, dependent upon the nature and localization of the anatomical changes. Furthermore we recognize disturbances of heart capacity in the incomplete emptying of the ventricular cavities during systole, often with diastolic dilatation. That such dilatation is not dependent upon the valvular lesion but upon diminished contractility of the cardiac muscle is vouched for by the transient character of the dilatation with apparently unchanged valvular conditions, i. e., compensation is disturbed and re-established under unmodified valvular states. Incomplete contraction of the heart or its divisions is only clinically recognizable. No anatomist can probably determine post-mortem the contractile power of the organ or its sections. A recital of the symptoms of circulatory disturbances following weakness of either or both ventricles is superfluous in view of the general knowledge and multiform description thereof in textbooks. To determine the existence of cardiac insufficiency or incompetency is not a difficult matter as a rule, but to designate a case as one in which permanent and dangerous incompetency exists because of anatomical changes so extensive or so localized in the myocardium as to preclude return to the normal, is as a rule impossible. We see one man with apparently marked valvular defect enjoy life in apparent undisturbed health for years and decades, responding in fullest measure to all demands made upon him. Another passes through a number of disturbances of compensation without detriment to his general condition, while in the third ruptured compensation, appearing early in the history of the case, is not fully or at all recovered from and terminates fatally after a brief period of heart weakness. What is the profit or object of such discussion as this? Primarily to detract from the valvular apparatus and its murmurs and attract to the myocardium the importance of consideration on the cause and effect of cardiac incompetency of serious import; the pathological states being so distinctly due to inflammatory processes, to place the proper estimate upon the continued or recurrent invasions of rheumatic or other infectious toxic agents. Secondly, but of like importance, is the stimulation which such observations as the records of our laboratories furnish to more alert recognition of the symptoms of cardiac failure, their comparative, close study, a critical scrutiny of all phenomena always with the view of determining if possible their significance as manifestations of anatomical changes of the myocardium in order,

not only, that we may satisfactorily explain the inconsistencies referred to in the beginning of this paper, but to aid us in prognosis and treatment.

DISCUSSION.

E. W. Mitchell, M. D., Cincinnati: Mr. Chairman, and gentlemen, I am sorry I was not here at the beginning of my colleague's paper; but I have heard the greater part of it and its conclusions. I wish to indorse the conclusions which the author has drawn. I consider them of great importance to the clinician.

One of the first lessons that the young practitioner has to learn after he begins work for himself and a lesson very early impressed upon him if he is studying his cases carefully, is that he cannot measure the gravity of a heart case by the murmurs which are present. It is a difficult lesson for us to impress upon our students that the condition of the myocardium is far more important than the presence or absence of valvular murmurs.

I have been very much impressed in some cases that I have had recently as to the influence of toxic conditions upon the condition of the myocardium. Quite recently we have had an opportunity of watching a case of chronic nephritis which extended over a period of five years. Whenever the urine drops a certain amount not only in quantity but in its solid excretion we find concurrently the disturbance of the heart, the arrhythmia and feebleness of the heart being most marked with dilation and the development of murmurs; so that by the time the patient had recovered from, or was convalescing from the acute attack symptoms, we have a very loud murmur which would have the characteristics of an organic murmur. When recovery was complete and the urine began to have its normal specific gravity; when the solid ingredients began to get back to normal, we had this heart contracting down gradually with disappearance of the murmurs and a normal rhythm.

The point that the doctor has raised in this paper, that we cannot determine in examinations of our patients the power of the myocardium to recuperate, is very truly made. Sometimes it is only by prolonged treatment that you can determine whether a given myocardium has the power of restoration. You cannot determine the extent to which the vital changes have gone; and sometimes when you look upon a case as most hopeless, under prolonged treatment it makes a relative recovery. One of our colleagues in this city, a very hard working man, has had a mitral insufficiency with very loud murmur and great hypertrophy for at least fifteen years, and has carried on a good practice during that whole time. In other cases where we expect to get prompt results from rest and stimulative treatment of the heart, we find that the case grows steadily worse. In such a case we must infer that there are anatomical changes that do not allow the myocardium to regain its efficiency. I wish to indorse and emphasize the point that Dr. Levison made with reference to the state of the myocardium and its efficiency.

J. H. Lowman, M. D., Cleveland: I wish to indorse the suggestion as to the possibility of

making a prognosis of the myocardium. It seems that people with great myocardial changes improve in the hospital very much better than do the well-to-do in their homes. I see that Sander-son has made reference to that in a recent book on the therapeutics of the circulation.

It must be due to the fact that the people who are well-to-do, who are secure in their homes, recognize changes in their heart's disturbance very much sooner than those who are obliged to work. Those who are obliged to work do not go to the hospital until their systems are thoroughly broken down, although when they go there they frequently get well, so that I often remarked to the house physicians that they must be specialists in the handling of myocardial disease for they get very much better results in the wards than physicians do with people in their homes outside. If a cardiac breakdown comes in a person who is well-to-do, it is an advanced stage; while the poor and the working people who cannot consider every slight change in disease, when a great breakdown comes it is perhaps temporary and not due to an extreme structural change, and they will recover; their hearts will return to normal, or get in very good shape so that they will not perhaps return to the hospital for six months or a year after their discharge, but in people who are well-to-do this is not the case.

Another clinical point that I would like to call attention to is the respect that is paid by people in well-to-do circumstances to their subjected feelings in the early onset of myocardial disease. The patient will insist that there is something the matter with him, when there will be absolutely no myocardial physical changes that you could possibly observe; yet that patient will insist that there is something the matter with his heart. You will perhaps conclude that there is some gastric disturbances. I have in mind a case where I could find nothing in the pulse in any way, and I discredited the patient's statement to some extent; but after about two years a basic murmur appeared, which sometimes is the first indication of myocardial disease. The patient did have the impression in the beginning from sensations which he repeatedly referred to over a period of five or six months. Attention should be paid to such complaints. People who are not well-to-do have no opportunity to analyze themselves. Often myocardial weakness is not shown by the physical signs whatever. Then, as changes develop in the well-to-do you may have a lamentable condition after a very slight attack of grippe, or something of that kind, which precipitates myocardial breakdown.

Another point in the well-to-do, and I have also observed to be the case in hospital cases, as soon as the patient is recuperating from his preliminary breakdown, the irritability of his heart is diminished; but when you get him up and begin to have him take slight exercise, get him to sit up in his chair and so forth, after four weeks, or perhaps twenty or thirty days, his pulse will fall from six to eight beats. Instead of growing very rapid as you would anticipate from slight exercise, the irritability of the heart does not respond to the impulses which naturally would come to it from increased exercise, and the beat is slow. In two or three instances I have noticed

sudden death was preceded by that symptom after a period of a month. Whether that had any particular effect upon it is a point to consider. I believe that it has the effect of diminishing the irritability, as well as the power of the heart, to receive the auricular impression which makes a slow beat.

THE VALUE OF THE LEUCOCYTE AND DIFFERENTIAL COUNTS IN ACUTE SURGICAL CONDITIONS.

FRED FLETCHER, M. D.,
Columbus.

[Read before the Ohio State Medical Association.]

The clinical significance of surgical hematology merits a more general understanding than is accorded it at the present time. We no longer say that the leucocyte count is unreliable and usually misleading, nor do we consider it too complexed and statistical for practical purposes. Contributions of recent date attest this statement.

This paper makes no attempt to review the subject of leucocytosis. The suggestions offered have proved helpful in a clinical way, and have served (personally) as a satisfactory working basis for the intelligent interpretation of the blood picture.

When we examine the blood and find an actual increase (above the normal) in the number of white blood corpuscles, we say that a leucocytosis exists. It is spoken of as an absolute leucocytosis. Exercise, cold baths, digestion and pregnancy are cited as conditions which cause a true form of physiologic leucocytosis. However, it is the pathologic form of leucocytosis that concerns us in a diagnostico-prognostic way. An increase in the polynuclear leucocytosis constitutes a distinctive feature of a leucocytosis secondary to a pyogenic infection. The increase in the percentage of the polynuclear cells is termed a relative leucocytosis.

It is the rule to have a leucocytosis in the acute pyogenic infections; in the acute and many of the chronic inflammatory processes; in all sapremic conditions; in malignant diseases, and following severe hemorrhage. The leucocyte count bears no relation to the size of the exudate nor the height of the temperature. It is not the quantity of retained pus, but the absorption of bacteria and toxins that excite the leucoblastic tissues.

The mere counting of the total number of white blood corpuscles sheds no special diagnostic light. In other words, leucocytosis is not to be reckoned as pathognomic of any defin-

its pathologic lesion. The great fundamental truth so often overlooked or ignored by the physician is that, the blood examination does not, per se, make the diagnosis. Instead, it gives valuable information concerning the effect the pathologic process has upon the blood. In this connection it is apropos to say that we can never hope to offer a convincing argument in favor of the leucocyte count until the profession learns to view the blood picture as a part of the history of the case, and to study it as a single symptom of the general clinical manifestation.

Leucocytosis means more than the mere increase in the number of circulating leucocytes. It is an index of the body's power of resistance—the clinical evidence of the individual's ability to overcome an infection. We say, therefore, that the total number of leucocytes indicates the severity of the battle that is taking place between the resisting powers of the patient and the infection.

As a diagnostic means the leucocyte count was labeled unreliable at a time when physicians received the laboratory reports of a normal or sub-normal count of the white cells in the acute suppurative processes in which death was plainly stamped. And the fact that death occurred and the abdomen found full of pus at autopsy, only substantiated the claim that the blood picture was misleading. We failed at this time to appreciate that the overwhelming toxemia had paralyzed the leucoblastic tissues,, and that the body resistance was *minus*. Recently, however, the hematologist has demonstrated the true value of the blood examination. He has pointed out that the total number of white leucocytes measures the body resistance, and that the severity of the infection (the degree of toxic absorption) is indicated in the increase in percentage of the polynuclear leucocytes. This percentage of increase is ascertained by making a differential count of the white cells.

The average leucocyte count of a healthy adult is about 10,000 per cu. mm., of which 75 per cent are of the polynuclear variety, and 25 per cent the other forms of the white cells—the large and small lymphocytes; the eosinophile and the transitional leucocyte. The *polynuclear* leucocyte is the only one to be considered for clinical purposes in the acute infections. It is true, however, that the eosinophile has a prognostic meaning.

In a general way we are to keep in mind that a low leucocyte count may mean one of three things: (1) A mild infection; (2) a virulent infection, and (3) a walled off pus focus without absorption.

In making a blood count the following facts are considered: (1) The age of the patient; (2) the duration of the illness, and (3) the severity of the symptoms.

It has been stated and is generally believed that the blood count is less reliable in children than adults. This statement does not hold good when allowance is made for the normal variation in the number of polynuclear cells at different periods of life. Wile has estimated the normal percentage of polynuclear cells to be 32 per cent. at the end of the first year; 48 per cent. at the age of seven years, and 60 per cent. under normal conditions, at the age of ten years.

Again, the duration of the illness and the severity of the symptoms demand serious consideration. We interpret the blood picture by asking: "Is the patient's general improvement the result of a walling off of the focus of infection, or, is the severe symptom-complex incident to an overwhelming toxemia?" In either case the total count is low. In the former case the toxins are absorbed in too small a quantity to cause a constitutional (blood) reaction, while in the latter condition, the toxemia (sepsis) has paralyzed tissue reaction.

To have a good resistance in an acute infection there should be an increase in the total number of circulating leucocytes. A high leucocyte count indicates that there is a pronounced reaction taking place. The increase in percentage of the polynuclear cells indicates the degree of toxic absorption. A low total count with a high polynuclear percentage suggests an overtaxed resistance. A decrease in the total number of leucocytes, with a reduction in the percentage of the polynuclear cells, indicates improvement. The eosinophiles are usually absent during the height of an acute infection, and are returned to the blood stream during the period of convalescence, hence their prognostic value.

The blood picture is not infallible, yet it should be reckoned as important when we can demonstrate the following statements in more than 90 per cent. of the acute infections.

(1) A polynuclear count below 75 per cent., excludes acute inflammation, pus or gangrene.

(2) A polynuclear count between 80-85 per cent., means an acute infection, and with usually acute symptoms, the probability of pus or gangrene.

(3) When the polynuclear count in the adult is above 86 per cent., we can say positively that a severe infection, pus or gangrene exists.

In a general way, it may be stated, that the prognosis varies with the percentage of polynuclear leucocytes, being good with a percentage

of 86 or below, and increasing in gravity as the percentage rises.

It requires a certain amount of experience, and surgical discretion (always) to intelligently interpret the blood picture. The acute pyogenic infections cause the most marked blood alterations, and especially does this apply to involvement of the serous membranes, as is witnessed in infections of the appendix, the gall bladder, the female pelvic organs, the meninges and the pleura. Neisser's coccus and the tubercle bacillus become active only in the presence of a mixed infection.

In case of ectopic pregnancy, with rupture and the loss of a considerable quantity of blood, there is a sudden increase in the percentage of the polynuclear leucocytes. As the patient reacts this percentage decreases, yet the total count remains high.

It is only fair to say that a positive diagnosis and operative treatment should not be based upon a single blood examination. One count will suffice in many of the acute surgical conditions, or it may be necessary to make several blood counts in order to clear up an obscure pathology.

My own experience has been had from a variety of surgical conditions, studied clinically and demonstrated at operation. The list includes the ordinary external infections; Ludwig's angina; involvements of the appendix, the gall bladder, the pleura, and the female pelvic organs; cases of suppurative peritonitis, intestinal obstruction, hemorrhage from ruptured ectopic pregnancies; meningitis and malignancy.

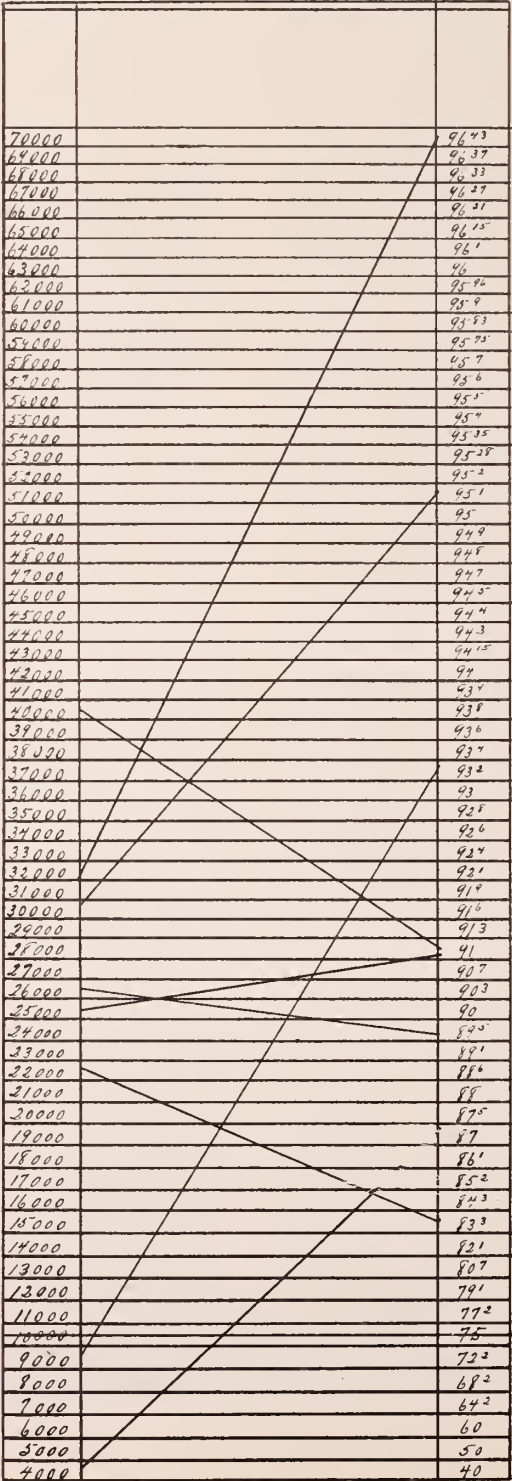
The summary is this ((1) The careful consideration of the history and clinical symptoms of every case in which a blood count is made as an aid to diagnosis or prognosis. (2) The making of a total and differential count of the white corpuscles for the purpose of using the blood picture as an index of the degree of toxemia and the physical resistance offered the infection. (3) Lastly, the real value of the blood count rests in the accuracy of its making by a competent pathologist. And the proof of its value is best appreciated when we operate upon and demonstrate a pathology that is in keeping with the pre-operative diagnosis—and the blood picture.

I am under obligations to Drs. J. J. Coons and H. O. Bratton, of Columbus, for permission to publish their modification of the Gibson leucocyte chart (*Annals of Surgery*, April, 1906). The practical advantage of the Coons-Bratton chart is that the Gibson principles can be applied for the high as well as the low leucocyte counts.

Gibson places the normal upper limit for the leucocytes per cu. nm. at 10,000, and the polynuclear percentage at 75. This is designated as the base line. For each increase of 1000 white cells the polynuclear are increased 1 percent. The chart reads, "11,000 corpuscles; 76 percent

polynuclears, or 12,000 corpuscles and 77 percent polynuclears, etc."

The Gibson chart is made by a series of parallel horizontal lines, with the leucocytes to the left and the per cent of the polynuclear cells to the right. Gibson connected by a straight line



PUERPERAL SEPSIS.
No operation. Death.
Resistance 38 "Units"
minus.

APPENDICITIS.
General peritonitis.
Death. Resistance 20
"Units" minus.

APPENDICITIS.
General peritonitis.
Death. Resistance 28
"Units" minus.

APPENDICITIS.
Perforative. Opera-
tion. Recovery. Re-
sistance 12 "Units"
plus (40,000: 91%).

APPENDICITIS.
Suppurative. Opera-
tion. Recovery. Re-
sistance 7 "Units"
plus.

GANGRENE OF
GALL BLADDER.
Operation. Death. Re-
sistance 15 "Units"
minus.

the total leucocyte with the per cent polynuclears in his counts, and found a rising line in the acute septic processes, and a horizontal or falling line in chronic inflammations. He designated the variation between the polynuclear percentage and the total count as so many "units," according to the number of lines the polynuclear percentage is above or below the total leucocyte count. According to Gibson a rising line of over ten units indicates a severe infection.

If the polynuclear percentage is increased one percent for each additional 1000 white cells above the normal, then in a leucocytosis of 35,000 (according to the Gibson chart) the polynuclear

The practical value of the Coons-Bratton chart in determining the polynuclear percentage rests in the recognition of a normal number of lymphocytes, 25 per cent, or 2,500 cells, no matter the degree of leucocytosis. If the total count is high in the presence of a septic process, the increase in the number of leucocytes is at the expense of the polynuclear cells, rather than the lymphocytes. And it follows that, if we subtract the number of lymphocytes constantly present (2,500) from the total count, and divide the remaining number by the total count, we get the polynuclear percentage. As an example take the normal count of 10,000 white corpuscles, from which we sub-

	Acute Suppurative Appendicitis	Gangrenous	Abscess	Perforation, Local Peritonitis	Spreading Peritonitis	General Peritonitis	Total
Under 75%	3	0	2	0	0	0	5
75-80 %	11	3	15	2	1	0	32
80-85 %	14	9	30	1	5	0	59
85-90 %	12	10	13	7	12	3	57
90-95 %	1	0	2	8	9	7	27
95 % up	0	0	0	0	0	4	4
Total.....	41	22	62	18	27	14	184
Under 10,000	0	4	1	0	0	1	6
10,000-15,000	18	6	18	3	7	0	52
15,000-20,000	16	7	20	3	11	3	60
20,000-25,000	3	5	16	2	3	1	30
25,000-30,000	2	0	4	7	3	6	22
30,000-35,000	2	0	2	2	1	3	10
35,000 up	0	0	1	1	2	0	4
Total.....	41	22	62	18	27	14	184

percentage on the horizontal line would be 100. However, this would never occur, yet it shows that the chart is schematic, and that it is impractical for accurate work in high numeric counts.

The Coons-Bratton chart, as outlined below, is on the principle that the polynuclear cells are affected in the acute septic processes, and that the other leucocytes remain practically normal, providing the resistance is good.

The Gibson base line is used—10,000 leucocytes; polynuclear percentage is 75. This means that of the 10,000 white cells, 75 per cent. are of the polynuclear variety. This is a normal blood picture—7,500 polynuclear cells, and 2,500 lymphocytes.

subtract 2,500 (lymphocytes); the remainder, 7,500, represents the number of polynuclear cells, and when divided by the total count (10,000) will give their percentage—75. In case the total count is 20,000, we subtract 2,500; the remainder, 17,500, is divided by the total count to get the polynuclear percentage—87.5.

This method of estimating the polynuclear percentage is based upon several thousand blood examinations in cases of acute and chronic intra-abdominal and pelvic infections; puerperal sepsis; severe hemorrhages; malignancy, gangrene, etc. A table showing the blood findings (Coons) in 184 cases of appendicitis is appended.

BLINDNESS IN HAMILTON COUNTY WITH SPECIAL REFERENCE TO OPH- THALMIA NEONATORUM.

LOUIS STRICKER, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

As you are no doubt all aware, the Legislature in 1908 passed a law granting a pension of \$150 per year to every *needy* blind person. The fund to pay this pension is raised by taxation, not to exceed 2/10 of one mill of the tax valuation of the property of the county. The law was very loosely drawn, simply providing that a registered physician and a citizen (two persons) swear before a notary that the applicant is blind, needy and a citizen of state and county for the required length of time. The commissioners receive the munificent salary of ten dollars per year. No provision is made that every applicant should submit to an examination by a competent oculist. It is only necessary to mention this fact to show you how easy it is for unscrupulous individuals to impose on those not specially qualified to make these examinations. I found not less than twenty-five who tried to impose on me.

I believe that I am absolutely correct when I state that our commission in Hamilton county is the only one of the eighty-eight commissions of the state which has made a systematic examination of every individual who applied, and I feel that the work has repaid itself by the facts disclosed.

The investigations have brought home to me a deep realization not only of the economic value of eyesight, but of the great moral responsibility, which, by reason of their special fitness and education the entire medical profession, owe, both to the state and to the individual, to do all in their power to prevent blindness—especially that which is preventable.

Blindness is one of the greatest—if not the greatest—misfortune that can befall an individual. Of necessity, it restricts education, retards advancement and limits the field of usefulness and endeavor. The investigations have shown that the vast majority of the blind remain dependent and in an altogether deplorable condition, a special charge and burden to their families, friends and the state.

My investigations were truly depressing. When one stops to consider the utter helplessness of the blind as a class, and how limited their

usefulness really is, the responsibility comes home to one.

In examination of 350 blind individuals, I found but three who made any sustained effort to support themselves, by any means other than begging or selling newspapers. This statement seemed so startling that the State Commission made an investigation and by adding 100 blind who were *not needy*, that is, taking 450 blind, they found but *thirteen* who are self-supporting.

Of the 350 blind, but eighty-two had attended the Blind School, and of this number but forty-two had learned a trade, and of these, to my positive knowledge, but three who were receiving institutional aid are following that which had been taught them, owing to the fact that they are taught things which are impractical, or with which the blind cannot compete in the open market. I have been told repeatedly by the blind, that to make brooms, and then go from door to door selling them, they lose money; at the same time they lose heart and become mendicant. There is a possibility that this is not true in the rural districts, but it is certainly true of larger towns and cities. The blind can only prosper when they receive aid, and it was hoped that workshops would be established in the larger centers of population by the state, thus taking care of those educated at the Blind Asylum, but the Legislature failed to establish these at its last session.

Hamilton county has a population of 450,000, and of this number 450 are blind. In other words, one in 1,000, or 1/10 of one per cent. of the population of the county is blind. According to the U. S. census of 1900, published in 1906, the total number of blind in the United States was 64,763; of these 4,466, not quite seven per cent., were residents of Ohio. According to the report of the Ohio State Commission for the Blind, 1908, who have taken the census in eleven counties, they estimate the blind of the state at 4,491, about the same as in 1900. Hamilton county, one of the eighty-eight counties of the state, will thus be found to contain ten per cent. of the blind of the state. Cleveland and Cuyahoga county have but 278 blind.

The educational institutions in forty states represent a total cost of \$9,000,000 and a yearly expenditure of \$1,650,000. In our own great State of Ohio, we have an institution costing \$500,000, and a yearly expenditure of \$100,000.

The public schools of Cincinnati have a daily attendance of 32,374 pupils, at a per capita cost

of \$22.14 per year. There are at present at the public School for the Blind, twenty-four pupils being educated at a per capita cost of \$110.06, whereas the State School for the Blind, with 313 pupils, has a per capita rate of \$330 per year, just three times the cost here in Cincinnati. (This includes maintenance at institution).

So that one can see that blindness is of great monetary importance to the state. The Hamilton County Blind Relief Commission is at present disbursing to 255 blind pensioners, \$9000 quarterly, or \$36,000 per annum, being but ten per cent. of blind of state. The total expenditure of the state in pensions would be \$360,000. Add to this \$100,000 for Blind Institute at Columbus—\$460,000—which amount is exclusive of expenditures of State Board; so that the blind are at present costing the state almost \$500,000 per annum. Here at least is a fixed monetary value placed on eye-sight, which ought to arouse public interest in the subject; and this valuation does not take into consideration the loss in wages to the individual, extending over a lifetime, who must ever remain in the dependent class, and whose wants require assistance and attention of another individual.

Nor does the summing up take into consideration the loss of that greatest and still intangible possession, the aesthetic value of eyesight. Surely the loss to the state and the individual is a great one, and should do more than arouse our sympathy. A reactionary wave is sweeping over these entire United States, and new methods are being devised to increase not only the educational facilities, but to improve their manual training, and to fit the blind to occupy more responsible positions. But greatest of all, public sentiment is being aroused to do away with needless form of blindness. Such as Ophthalmia Neonatorum; Fourth of July powder explosions; the thoughtless practice of placing firearms in the hands of young people who do not know how to handle them, and last, but of growing importance, the blindness following either the ingestion or inhalation of Methyl or Wood Alcohol. And the list might be extended. None can do more than the physicians, themselves, in arousing the general public in the direction of preventing blindness. Legislators will awaken to this fact when they realize the monetary loss to the state.

In taking up the scientific side of the subject, a *Medical Record Blank* was adopted. The writer will gladly furnish sample blank to any one desiring it, being a scientific record of the conditions present in both eyes on which the diagnosis of blindness is based, and such other matter as is

important to determining the causation of blindness.

A standard defining blindness was also adopted and three degrees of blindness defined.

First. *Total or absolute blindness.* In which the light sense is totally abolished.

Second. *Blindness.* Where vision in both eyes, with proper correcting glasses adjusted, is of so low a degree that fingers can no longer be counted at one meter or three feet, but movements of the hand or moving objects may still be discerned.

Third. *Practical blindness.* Where moving objects may still be discerned at three meters, or nine feet, but where the field of vision has become so impaired (either by contraction of the field down to five degrees or less, or where central vision is entirely abolished and a small area of excentric vision remains, or where disseminated scotomata exist, or where only a sector of excentric vision remains) that no useful vision remains and the individual gets about with great difficulty.

Fourth. Only those will be considered as blind who are hopelessly and incurably so.

This standard is more just and favorable to the blind than that adopted by the states of Massachusetts and New York, where the standard requires reading of fingers at one foot. The third section (admitting the practically blind), so far as I am aware, has never been incorporated in any definition as to what constitutes blindness. I feel that they justly come within the class of the blind.

Under this ruling

138 were found to be totally blind

121 were found to be blind

33 were found to be practically blind

26 were found to be not blind

The rule was strictly adhered to, and though it appeared to visit a hardship on a few isolated cases, in the main it worked with efficiency. There were a few impostors, quite a number in whom vision was of a low degree, but still not low enough to bring them in the fold of the blind. There were quite a number who had undergone operations, in consequence of which conditions existed which made it all but impossible to determine just how much vision they possessed. In all such cases the applicant was given the benefit of the doubt. It should be remembered that the applicants come in a negative state of mind, determined to see as little as possible, not to aid us in getting the highest degree of vision. In one case, taken unawares, the visitor found the blind person playing cards,

and in another the applicant, in an unguarded moment, admired the beautiful flowers the visitor was carrying.

The Hamilton County Blind Relief Commission was appointed May 18, 1908, and received and investigated, with all the details as given above in view, 323 applications; of these 182 were males and 141 females. Of this number but thirty-four were colored. Two hundred and thirty-seven were granted the pension, one died shortly after making application, and seventy-four were rejected for various causes, as follows:

Not considered	3
Not blind	24
Inmates of institutions.....	24
Non-residents	3
Not needy	30
Death	2
Total	86

The ages of applicants ranged from two and one-half years up to 90 years. It will be observed that but 18 were under 20 years of age, 117 between 20 and 50 years. The majority, 188, had passed the 50th year, and of these 72 had passed the 70th year.

AGE

Of Applicant		When Blindness Occurred
Birth		11
Shortly after birth		16
1-4 years ...		14
5-9 "	2	21
10-19 "	14	24
20-29 "	21	25
30-39 "	31	26
40-49 "	54	50
50-59 "	48	36
60-69 "	52	35
70-79 "	43	25
80-90 "	22	4
Total.....	287	287

67 had become blind prior to the tenth year
25 between the tenth and twentieth year
92 or 28.47% became blind prior to twentieth year

making a total of 86 becoming blind during the years when the mind and senses are most pliable and the pupil most apt to learn.

59 became blind between the 20th and 40th year, whereas
55 became blind between the 40th and 50th year.
167 became blind subsequent to the 50th year.
So that 230 or 71.53% became blind subsequent to the 20th year.

As regards nativity, 222 were native-born Americans, and of these 142 were born in Ohio; but 101—33 per cent.—were of foreign extraction. All but two have lived the requisite length of time in the state and county.

NATIVITY

American		Foreign	
Alabama	1	Austria	1
Connecticut ...	1	Canada	1
Illinois	3	England	2
Indiana	12	France	2
Kentucky	38	Germany	57
Michigan	1	Hungary	1
Missouri	1	Italy	2
Maryland	2	Ireland	23
New York	1	Switzerland	4
North Carolina..	2		
Ohio	120		
Pennsylvania ..	4		
Tennessee	3		
Virginia	3		
West Virginia..	2		
Total.....	194	Total.....	93

It must be self-evident to every one that just in proportion as we eliminate the causes will the number of the blind and the entire train of misfortunes which follow in its wake, disappear.

Two cases (0.75 per cent. of the 267 cases admitted as blind) were due to consanguinity (i. e., marriages between first cousins). Twenty-five cases were due to congenital disease, and the vast majority of these are undoubtedly syphilitic. Add to this number 42 cases of acquired syphilis, making a total of 67 cases, and we find that this one cause alone is responsible for 25.09 per cent. of all the cases of blindness. Sixteen cases were due to ophthalmia neonatorum (gonorrhœa) in the newborn, equal to 5.24 per cent., which is an entirely preventable cause of blindness. There is a law on the statute books making it a misdemeanor, punishable by fine and imprisonment, where a midwife or nurse does not at once call in an oculist where purulent inflammation develops in an infant's eyes within the first few days after birth. The law is honored more in its breach than in its enforcement. Ignorance and neglect exist among the poor, and I feel that if an offender was now and then made to feel the full force of the law, it would arouse the conscience of others. As has been well said, blindness from this cause is a crime against civilization.

In a letter from Mr. Van Cleve, Superintendent of Blind School at Columbus, he says: I have a group photograph of twenty-six girls and thirty-three boys—blind from ophthalmia neonatorum—at present attendants of our school. The

records show a total of 77 out of 248 pupils of the school, blind from this cause.

In a separate examination of twenty-four children at our Public School for the Blind, six, or 25 per cent. were found to be blind from this cause. They never need have been.

This does not, by any means, give a fair estimate of the number of cases that occur in this community. Some die, others by skillful treatment are saved just sufficient eyesight to go through life with a terrible handicap.

The percentage found was 5.24 per cent. of the total blind. At the Blind School at Columbus, it was found to be 9.83 per cent., which is the lowest rate of any state in the Union. In the New York State School for the Blind, it is 30.7 per cent. and in many other states the ratio is even higher.

It has been pointed out (Prevention of Blindness No. 2, New York Association for Blind) that the present law requires that certificate of birth be filed within ten days. Diminish this time to twenty-four hours and the sight of hundreds of children will be saved, for the following reasons:

The negligent practitioner who has forgotten to take with him his silver salt; the ignorant or careless midwife is suddenly confronted with the questions on the certificate which he or she is obliged to answer and post within twenty-four hours of the birth of the child; she is also suddenly confronted with the possible penalty if anything should go wrong with the child.

It is not too late—the prophylactic is applied at once—the disease is averted. Ten days later it would be too late.

I believe that the prevention of the scourge is one of the greatest duties of our Health Department. The law already on our statute books should be enforced. Has any one ever known it to be? The law, since its passage fifteen years ago, has been practically buried, and is unknown to every Health Board of the state. It does not appear under the heading of Blindness, Prevention of Blindness, or Health Regulations of the State, but under the laws relating to infants.

Bates' Annotated Statutes of Ohio, third and sixth edition, part 2, page 1789, section 3140. 3.4.

Laning's Revised Statutes of Ohio, page 1039, section 4843; Inflammation, Swelling in Eyes of Infants, etc.

"Section 1. Should one or both eyes of an infant become inflamed or swollen, or show any unnatural discharge at any time within ten days after its birth, it shall be the duty of the midwife, nurse or relative having charge of such infant, to report in writing within six hours to the

physician in attendance on the family, the health officer of the city, village or township in which the infant is living at that time, or, in case there is no such officer, to some practitioner of medicine legally qualified to practice in the State of Ohio, the fact that such inflammation, swelling or unnatural discharge exists.

"Section 2. Any failure to comply with the provisions of this act shall be punished by a fine of not less than \$5.00 or more than \$100, or imprisonment for not less than thirty days nor more than six months, or both fine and imprisonment.

"Section 3. This act shall take effect and be enforced from and after its passage."

Ophthalmia Neonatorum ought to be looked upon as an infectious disease and treated as such. Every case ought to be reported, and when cases are brought to our hospitals, they ought immediately to be investigated to the end that the fault be determined. The offender instructed in the first instance and warned, and if subsequent cases arise—prosecute the man who has failed to do his duty in the premises.

At its meeting last year, the A. M. A. adopted a plan which (as in all other State Society Meetings) is offered for your consideration.

The plan proposed is:

1. That through the state society the work be taken up in each county society and be presented at its next regular meeting by some of its members; that the sanitary measures be considered; the care of the discharges of the mother, the bath of the child; the danger of the general bath which Schermer calls "Gift Wasser"; the necessity of bathing the eyes in a clean solution not otherwise used, and such other points as may be important—in other words, the general sanitary measures needed to protect the eyes of the child.

2. That the importance be emphasized of the greater protective value of antisepsis over asepsis, which is in full accordance with modern medical practice.

3. That it be shown that the use of a prophylactic is a protection to the physician, as whatever may subsequently occur he will have followed approved measures and will have taken the necessary precautions, while failure to do this leaves him justly open to censure.

4. That the state society endeavor to secure the written assurance on the part of each member of each county society that he will use some measure of antiseptic care in each case that comes under his charge unless there be special reasons why he should not do so and that these appear upon the birth certificate.

5. And, finally, that through the co-operation of the State Medical Society and the Department of Public Health authority may be secured with an adequate appropriation to enable the department to manage this as it manages other infectious diseases, obtaining reports of the number of cases occurring with the results, sending out educational matter, and providing for the gratuitous distribution of the prophylactic.

In this connection, I would offer the following resolutions:

WHEREAS, Ophthalmia neonatorum is the cause of a large proportion of the blindness at birth that afflicts individuals and is a burden to the state and is an infection and consequently entirely preventable disease; therefore,

Resolved, That the Section of Eye, Ear, Nose and Throat of the State Society hereby heartily endorses the efforts of the American Medical Association to eradicate this disease and, consequently, the blindness of which it is the cause.

Resolved, That the health authorities of every municipality of the State of Ohio be and hereby are requested vigorously to enforce the existing law of the State of Ohio for the protection of society against the extension of ophthalmia neonatorum and to co-operate in securing such amendments to the existing law as will make it more effective.

Resolved, That the members of this society and of the profession in general be and are hereby requested individually and collectively to exert their influence in educating the public on this important question and in securing popular co-operation in the enactment and enforcement of laws necessary to correct existing conditions.

Resolved, That the present special committee on this subject be continued with instruction to co-operate with the committee on Medical Legislation in taking up the question before the next session of the Ohio Legislature.

Blindness due to the infectious diseases sum up a total of 62 cases—20.00 per cent; due to scarlet fever, measles, mumps, cerebro-spinal meningitis, typhoid, smallpox, trachoma. School inspection is the greatest safeguard against all of these. No civilized community ought to expose its school children to the ravages of the infections, when regular and systematic examination of all children at school by competent physicians will lead to the early detection of a contagious disease in a child. Where isolation of a case of scarlet fever or measles follows at

once, where all the other children in that family, or even living under the same roof, are isolated and not allowed to return to school until the danger of contagion is past, where fumigation of the schoolroom follows every time infection is detected, just to that degree are the dangers of an epidemic averted; and we know only too well that in a certain percentage of serious cases of infectious disease, when death does not ensue, blindness does. Five cases of blindness were due to this cause. Smallpox is entirely preventable by vaccination. Trachoma, a most virulent and practically incurable disease, leads to blindness, and is transmitted by using the same handkerchiefs and towels. Roller towels in schoolrooms or institutions are an abomination. One child with granulated eyelids can infect a whole school, even a community, and spread disaster.

Twelve cases (4.02 per cent.) were due to nearsightedness, high degrees of myopia. This condition can likewise be ameliorated by the proper lighting of school rooms, seeing that the light falls from the proper direction; the character of the type used in school books, and the proper adjustment of desks and chairs.

Methyl or wood alcohol has been the cause of blindness in three (possibly four cases), as the result of inhalation. Hundreds have died from drinking it. Its sale should be made a felony, since denatured alcohol (which contains but two per cent. of wood alcohol) can be used for everything for which wood alcohol is now used, and the dangers are greatly minimized. Lead poison caused four cases of blindness. These two causes are responsible for 2.62 per cent. of case of blindness.

In a total of 175 cases, equal to 58.90 per cent., the causes can justly be considered as preventable. In detail, the preventable causes appear as follows:

Causes of Blindness		No.	Per cent.	
Consanguinity	2	0.67		
Congenital (see Syphilis).....	25			
Birth (Oph. Neonatorum).....	14	5.37		
Infectious Diseases: {				
Rheumatism	1			
Grip	3			
Scarlet Fever	3			
Mumps	1			
Measles	6			
Cerebro Spinal Meningitis.....	5			
Typhoid	4			
Smallpox	5			
Erysipelas	4			
Trachoma	12			
Slight Corneal Abrasion Infection. 9	53	62	20.50	
Syphilis { Acquired.... 42 }				
{ Congenital... 25 }		76	25.09	25.58
Occupation { Lead..... 4 }				
{ Methyl Alcohol.. 3 }		7	2.62	2.39
Myopia	12	4.11	4.02	58.90
Vascular Disease—Arterio Sclerosis (Age).....	45	14.23	15.03	
Accidents { Accidents..... 31 }				
{ Unsuccessful Operation.. 7 }		39	14.24	13.12
Glaucoma { Fulminans ... 1 }				
{ Chronic 24 }		24	9.35	8.43
Exposure { Sunstroke 2 }				
{ Lightning 1 }		7	2.62	2.39
{ Heat and Cold.. 4 }				
Diseases of Women { Brights of Pregnancy..... 2 }				
{ Loss of Blood at Climacteric.. 2 }		4	1.35	Non-preventable per cent.
Heredity	1	.39	0.39	41.10
Tumor	1		0.39	
Total.....	267		100.00	

Accidents are placed in the list of non-preventable diseases, and still a study of the causes will disclose many where a little care or forethought could have prevented these frightful results. Man's brutality has not been wanting in at least two cases. The elements, heat and cold, and lightning, are responsible for seven.

Loss of both eyes at time of accident:

Gun-shot	2
Dynamite explosions	4
Fractures at base.....	2
Fourth of July powder explosions	2
Concentrated lye	1
Explosion of sewer gas.....	1
Inhalation of wood alcohol.....	3
Total	15

In the most liberal sense, fully forty to fifty per cent. of all cases of blindness are due to venereal disease, infection, poisons, and accident, and ought to be preventable in a very large proportion of cases.

The frightful ravages of accident and disease had disfigured the features of many of these unfortunates, and it cannot be denied that the

appearance of even a blind individual has much to do with human prejudice and in giving them employment.

7 had had both eyeballs removed
30 had had one eyeball removed
32 had one shrunken eyeball
39 had both eyeballs shrunken

Sympathetic ophthalmia, i. e., loss of second in consequence of injury to first eye:

Particles of steel.....	3
Stab and punctures of globe.....	6
Blunt force	9
Operations	2

Total

Factores complicating blindness:

Insanity	3
Mental defective.....	10
Deaf	13
Difficulty in speech.....	1
Locomotor ataxia	16
Paralysis agitans	2
Hemiplegia	7
Disseminated sclerosis	2
Arthritis deformans	2
Exophthalmic goitre	1
Epilepsy	2
Total	59

Diseases of the Eye Producing Blindness		Cases	Per cent.
Globe	{ Congenital Malformation 1	57	19.25
	{ Microphthalmus 2		
	{ Buphthalmus		
	{ Keratoconus 1		
	{ Keratoglobus 2		
	{ Panophthalmitis 5		
	{ Phthisis Bulbi 44 }		
Cornea—Leucoma Totalis		33	11.01
Uvea	{ Iris—Ciliary—Choroid ... 13 }	33	11.01
	{ Sympathetic 20 }		
Lens	{ Congenital { Ant. Polar.. 3	50	16.86
	{ Zonular 4		
	{ Capsular ... 1 }		
	Senile Cataract		
	Cataract Morgagni... 1		
	{ Secondary Member... 7		
Retina	{ Glioma R. 1	27	9.20
	{ Embolism 1		
	{ Chorio Retinitis... 16		
	{ R. Pigmentosa 5		
	{ Detachment of 4 }		
Optic Nerve	{ Simple Atrophy 50 }	72	24.24
	{ Retro Bulbar Atrophy.. 22 }		
	{ Glaucoma—Optic Atrophy—Fulminans 1		
Total.....		267	100.00

*These statistics were made based on 267. The number has now risen to more than 360, but the statistics were not materially altered by this addition, hence I did not compute them over again.

The work demonstrates:

First.—That the pension is of inestimable benefit to a large dependent class, whose conditions as a whole are deplorable.

Second.—That more than half of them are too old to help themselves or to accommodate themselves to their surroundings.

Third.—That the teaching at the Blind School has benefited but few, and of these but a very small proportion ever become self-supporting.

Fourth.—That there is need of workshops in the large centers of population of the state to supplement the work at the Blind School.

Fifth.—That the Health Department, both local and state, ought to take a more decided stand and see that the laws regarding Ophthalmia Neonatorum already on the statute books, be enforced.

Sixth.—That a campaign of education (regarding some of the most common and most easily prevented causes of blindness) be inaugurated—to the end that the numbers of the blind be materially lessened.

DISCUSSION.

S. C. Ayres: It is very late, but this is an important subject, and I want to say a few words. In the first place, in regard to the appointment of examiners for blindness, it seems to me that the

doctor should be an expert oculist, not a practicing physician.

It would seem that in Hamilton county only 5 per cent are blind from ophthalmia neonatorum. This is certainly rather below the average. The statistics also show that 25 per cent of the cases are due to syphilitic diseases. It is quite possible to prevent this, and I am sure every practitioner would do everything in his power to prevent the disease from developing. It is estimated that 65 per cent of the women in Cincinnati are delivered by midwives. I introduced a bill into the legislature fifteen years ago, when I was in active clinical work, and a copy of this law was sent to every doctor in the country; also to every midwife, and I think it stirred them up considerably. They knew there was a penalty, and I am sure ophthalmia neonatorum was much less for a long time.

Two years ago I asked the health officer in regard to ophthalmia neonatorum, and also made some investigation myself, as to the prevalence of ophthalmia neonatorum. I believe the plan adopted several years ago would be a good one; to have this law printed and sent out to every nurse and every midwife, and also to the doctors. If we could only have one single case brought up for trial, it would do a lot of good. One midwife punished for neglect of duty would be warning to others.

This trouble can be prevented, and the measures are so simple it seems to me there is no excuse for the disease. Carelessness among doctors occurs in this way. The doctor goes in and asks about the mother, and the baby and asks if

its eyes are all right and is told yes. It is his duty to look after the eyes himself. He should look at the baby's eyes every day, and if there is any discharge, begin active treatment at once. I think there is carelessness on the part of the practitioners because they pay more attention to the mother than the baby.

I shall not occupy your time any longer.

F. W. Blake, Columbus: The activity of this Commission for the Blind depends upon the amount of the appropriation granted by the state; and this past year it was cut down to about \$2,000. Mr. VanCleve, the president, has told me—and I believe that he spoke for the Commission—they feel that, with the small appropriation for their work, all they can do is to establish a propaganda for the prevention of the various causes of blindness, particularly ophthalmia neonatorum.

As you may know, the Commission are now sending out copies of our state law, with a statement that they will supply any number of the same for further distribution.

Mark D. Stevenson, Akron: If we are going to educate the public in this matter, every one must be impressed with the fact that ophthalmia neonatorum is not exclusively a gonorrheal disease. It seems to me that is the first, most important step. Of course, many of these cases are gonorrheal, but it must be acknowledged that any woman may, under certain conditions, infect her child. Therefore this subject comes home to everyone. The infection may be carried from the discharge of the nostril. I not only advise instilling nitrate of silver solution into the eyes, but also that a drop be placed in each nostril. It does no injury and helps to render the nasal cavity clean. I think it is a very advisable procedure. As to the legal side of this matter, this law could be made more effective if some means could be devised so that a copy of the law would be sent to the parents of every child when the birth certificate is filed. No one would then be likely to ignore necessary precautions.

Louis Stricker: I agree heartily with what Dr. Stevenson has said. The trouble is, the doctor feels that he is above the law and whenever you try to have any law passed which will compel him to do a particular thing, he immediately is up in arms and feels that his rights as a physician are being infringed.

I presented a resolution before the Academy of Medicine about four weeks ago, much stronger in its terms than the one presented for your consideration, which stated that the birth certificate should contain a special clause telling whether the infant's eyes were inflamed at birth, whether a prophylactic was used, if not, why not, and the resolution was lost by a majority of about twenty to one, on the ground that physician's knowledge was confidential and that he could not be made to divulge it. Such a position is, in my opinion, not only narrow, but is detrimental to the best interests of the state and the individual.

In the State of New York they are trying to pass just such a law, and they will in all probability succeed, in spite of professional opposition.

Dr. Gillespie was opposed to making a public record of these cases of ophthalmia neonatorum as he felt that if it once became known that gon-

orrhea was the underlying cause, divorce cases would follow. He stated that he had seen discharge follow the use of nitrate of silver, but he fails to see that it's early application will forestall cases of this dreadful disease, which in so many cases, spells a lifelong misfortune. I asked him if he did not feel that even a divorce was far preferable to a blind child.

PROGRESS IN PROCTOLOGY.

GEORGE B. EVANS, M., D.,
Dayton, Ohio.

[President's address, read before the American Proctologic Society at Atlantic City, N. J., June 7, 1909.]

It is a great privilege and honor to preside over the deliberations of this society. From the very beginning I considered it the greatest hour of my professional life to be invited to become one of the charter members of a society devoted exclusively to proctology. There is no greater satisfaction in life to the man who has a clean heart than to feel that he has the confidence and esteem of his fellow laborers. The greatest proof of my interest in the growth and welfare of this society lies in the fact that I have been present at every meeting, and listened to every paper and discussion. As the hand on the dial points to the hour when the "clans must gather to the trysting place," we are reminded that the American Proctologic Society will now assemble for the eleventh time since it met at the Chittenden Hotel, Columbus, Ohio, June 6-7, 1898, when it was created a national body. As the chariot of time has rolled by, each annual session has left its imprint on the history of proctology, an imprint which has yearly become wider, deeper and far more indelible as our organization has advanced in maturity, strength and prosperity.

Our labors have not only contributed to our individual betterment as members of this guild, but they have added to the dignity and luster of proctologic surgery by their excellent results. With this great heritage, a measure of accountability, for the safeguarding of the trust has also been handed to us, which adds to the grave responsibilities of the hour.

As I stand before this gathering of guests and my distinguished fellow-laborers, I feel profoundly conscious of my own shortcomings and unworthiness, yet deeply grateful to you for your confidence and esteem. As I gaze upon this year's program containing twenty-six papers from various authors, I feel assured that when this session closes, one year more of fruitful en-

deavor and achievement will be added to the imperishable records of our society.

Not many years since, the creation of proctology as a specialty was frowned upon; for an indefinite period what was known of and what was done for diseases of the rectum was largely empiric, and not due to special knowledge or scientific study. A few of us, at least, can remember when it was the rule among general practitioners to make no special effort to determine the pathology of diseases of the rectum; in fact, it was believed unbecoming the dignity of a high-classed, high-toned medical gentleman to so lightly esteem modesty as to ask for the privilege of seeking the naked truth. Without attempting to make a diagnosis, opium and lead wash, with catharsis, was deemed sufficient treatment for any case. Little was taught in medical colleges of these diseases, for little was known, and no special desire to learn much concerning them seemed to exist. But, fortunately, in the natural evolution of this specialty, this ignorance and indifference in the main, has been eliminated, and this field of work has assumed that of an accredited, and justifiable specialty. No longer do we have to contend with the non-recognition of serious pathology, because of interposed modesty, ignorance and criminal indifference. A knowledge of the importance of being able to diagnose and treat intelligently diseases of the rectum is now considered essential for every general practitioner, and all this as a result of the creation of proctology by men who have made special effort to develop this field of work. The credit is due to such men as Adler, Allingham, Ball, Cripps, Edwards, Earle, Gant, Martin, Pennington, Kelsey, Matthews and others. To them are we indebted for progressive proctology. It seems to me that every medical college in this country should make some provisions for teaching the fundamental principles of proctology. I do not mean by this that the students should be made specialists, but I do mean that they should have such instruction as would enable them to diagnose the minor ailments to which the rectum is heir. I am happy to report that there is progress in this direction, and today more colleges are teaching and giving more hours to this subject than in previous years. In my work in the hospital with which I am connected, the internes have been better equipped for work in proctology in the last three years than before. As a matter of course, our pathology of this area is of necessity a modern pathology, and our knowledge of valves, varicosities, neoplasms, ulcerations and suppurations, are not based on hypothetical ideas of a quarter

of a century since, but instead on the rather exact revelations of laboratory findings. The import of the presence of staphylococci, gonococci, colon bacilli and tubercle bacilli, is equally as much to the rectal surgeon as to the general surgeon, as is the microscopical proof of the malignancy or benignity of a bit of tissue. With what greater assurance the proctologist approaches examinations of rectal diseases than did the physician or surgeon of some years since. With a wide open field, if necessary, the aid of anesthesia, the proctoscope and the laboratory, there is usually not much difficulty in making a diagnosis inseparably linked with its dependents—treatment and prognosis. Under the influence of progressive proctologic work, ignorance and indifference to the recognition and treatment of rectal diseases is rapidly disappearing from the average medical man, as well as from the average lay man. As a result of which the sum total of human suffering is immeasurably lessened, and individual existence is not so frequently abridged. The victims of rectal diseases are to be congratulated that this branch of science, or pseudo-science, has sufficiently advanced, that it now occupies the serious attention of the most progressive and intelligent men. A review of what has been done as relates to this specialty, that may be considered progressive and beneficial, is hardly worth the while, as you are all familiar with them. Yet I shall venture somewhat along this line. Progress is bound to come, and come through innovation. Therefore, we should be careful how we oppose the new simply because it is new. The heretic, of one century, becomes the apostle of the next; the rebel, of today, becomes the patriot of tomorrow. Progress is the condition of existence; when we are no longer improving, we are deteriorating. He who adds his mite to the storehouse of knowledge is only paying the debt he owes to his predecessors, who have filled it so abundantly for him. T. C. Martin laid before us the results of his labors in the dead house, his successes and failures in the amphitheater relative to the existence and pathology of rectal valves. He demonstrated his technique for the removal of the same. He simply paid a debt and that cheerfully and we are grateful. Along the same lines, Pennington, the irrepressible and indefatigable worker that he is, came to Washington in 1890, with a bag full of pathological specimens and cheerfully and gladly laid them at our feet. Is not this progress? He simply paid a debt. Down in the South is a man who spends every spare moment searching for the ameba and brings his results to us each year for our acceptance or re-

jection. Jelks is simply paying a debt to suffering humanity. He is progressing and by his efforts the objects of this society are advancing. Tuttle, by extirpation and resection, is ridding the rectum and sigmoid of that much dreaded disease—cancer. Gant has made operative interference easy by the intervention of local anesthesia. Let everybody get busy. The management of diseases embraced by proctology has been influenced and that favorably by Listerism. Twenty-five years ago we knew little of asepsis and antisepsis. The Lister methods of that day have been so changed and improved that they now seem very crude. The value of thorough cleanliness, asepsis, and the antiseptic influence of certain drugs, is of immeasurable value. It is now understood that the recto-anal area can be placed in a surgically clean condition, and that there need be no fear following operative interference. In not a few instances, it obtains that relief is dependent on rectal surgery, when the subjects are unfit for narcosis produced from a general anesthetic, in cases of cardiac, pulmonic or nephritic disease, making it hazardous to use general anesthesia. Sometime it would seem that this danger of the uses of an anesthetic is too lightly thought of, and consequently, the mortality rate is increased. Local anesthetic, under cocaine infiltration, for the most part, is satisfactory, and is a great convenience to the operator and a life-saving narcosis in many instances.

The palliative treatment of hemorrhoids by proctologists is largely a matter of enforcement, viz., where they are not permitted the opportunity to relieve by radical methods. The operative methods of removing hemorrhoids are so well understood, simple and effective, that it is foolish to attempt to relieve them by drugs or palliative measures.

The Allingham, or ligature method, when correctly and carefully performed, is generally applicable, but is not so free from pain, and so quickly convalesced from as the clamp and cautery method. Many regard the last mentioned method as the one to be preferred. I believe, however, that the enucleation method approaches nearest to the ideal in results, and that the retention of the plug is not so painful as some would have us believe. This method leaves no tender and obstructive stumps to slough; no nerves to be caught and squeezed, which produce most excruciating pain, as after the use of the ligature, nor are the nerves and tissues burned to a crisp, which is also painful, as with the clamp and cautery. In lieu of this, a fibrinous

exudate is deposited over the operated field, which exudate is neither destroyed nor disturbed upon removal of the dressings. This operation, as I have said, approaches the ideal, and is a step in advance. Why? First, it is neater. Second, the removal of dressings is painless. Third, tender granulations are protected by the rubber covering of the plug; hence, healing is greatly enhanced. Fourth, little or no pain occurs during the first and subsequent movements of the bowels.

Proctoscopic examination is of importance, and is a distinct advance in rectal work. It is of great assistance in determining disease beyond discovery by ordinary methods. It is of distinct service in diagnosis, and of great value in aiding treatment in not a few conditions. The use of the proctoscope should be encouraged, as undoubtedly its use by the general practitioner is infrequent.

There is more hope for the ultimate cure of tubercular conditions; our better understanding of what environment means to these people will go far toward helping them to recovery, and there is not so much reason for a delayed recognition of the condition, which is of paramount importance.

I believe there is possibly a better understanding of syphilitic conditions, ulcerations, infiltrations and strictures, and the eternal dependence on anti-syphilitic treatment to resolve hyperplastic tissue is not so conspicuous, and progressive workers in this field realize that incision and excision are often necessary. Concerning malignant and benign growths, the surgical rules that apply in other anatomical regions apply here. Early discovery and early removal is the only hope, as we all know, in malignant growths not within easy reach from below may be dealt with from above, or supra-pubically, and just here it may not be inopportune to remark that it is to be believed that ere long it will be realized by the average physician that the removal of the rectum per se, is not as disastrous a matter as it is sometimes made to appear, especially since it is known that muscular transplantation will preserve more or less perfectly the function of the sphincters. The development of the technique essential to produce sphincteric power, will relieve rectal extirpation of one of its most unpleasant features and render less hesitant many sufferers who should have the benefit of the operation. Another matter of progressive interest is that colonic or rectal ptosis is amenable to intra-pelvic or intra-abdominal fixation, bringing relief that in

some instances cannot be hoped for by any other method of interference.

Now, gentlemen, I have hastily gone over the field and noted the previous points to indicate to you that there has been progress in our work, though it may have previously appeared to you without having devoted special attention to the matter, that there has been no progress in the last half century. After all, the most encouraging sign is that the profession recognizes the fact that proctologists have a legitimate right to exist as specialists, and that diseases in the ano-

rectal region deserves the same consideration as elsewhere. With the elimination of indifference, estheticism, modesty, the more universal belief in the necessity of early examinations and diagnosis, we can but hope for greater progress and more relief to suffering humanity.

Gentlemen, when I consider the personnel of this Association, I am quite confident of the perpetuity of proctology as a distinct entity and am equally sure that progression in this special field of work will be in keeping with that in other specialties.

MEDICAL ECONOMICS

By J. W. CLEMMER, M. D.

PUBLIC HEALTH AND THE DRAMA.

A year ago Miss Olga Nethersole, for years interested in the prevention of tuberculosis, visited the tenement district in New York owned by the Trinity church corporation. The inspection revealed such horrible unsanitary conditions of living and building construction that she commissioned Mr. J. Hurlbut to write a play based upon them.

"The Writing on the Wall" is the name of the new play. The following lines are found in Act I: "And a Godly man stands in that pulpit and preaches to the world to do right, and we who are Trinity kneel at the rail and take the blessed sacrament. The very bread that is broken paid for by these reeking lives, the wine we sup as the blood shed for humanity bought, literally bought with human blood."

The effect of this play upon public sentiment has been so great that this church corporation has begun to sell its tenement property.

This drama is accomplishing much to enforce sanitary conditions. In the hands of Miss Nethersole it is educating the public in the horrors of tenement life.

For once the church and the drama were tried in the balance of good and evil. The principle involved does not only include church corporations, but all corporations and individuals who inflict unsanitary conditions of labor and home-life upon their dependents. The stage, in this instance, has usurped the functions of the pulpit in the physical and moral uplift of mankind; if the church expects to hold its own, it must reach deeper into the personal lives of the people.

IN EVERY CITY THERE ARE PHARMACISTS who are ethical and loyal the medical in-

terests. They are not guilty of counter prescribing, of advertising diseases and their cures, of exploiting nostrums and using patent medicine circulars to wrap the containers of physicians prescriptions. The interests of the medical profession warrant a reciprocity between physicians and this class of pharmacists. Send them your prescriptions as a matter of protection to your patient and to your own interests.

Complaints are made that pharmacists advertise optical goods, batteries, patent medicines, vibrators, etc. The advertising druggist claims that these agencies will cure anything from pimples to cancer. Surely such a druggist is unprofessional and does not represent the profession of pharmacy. The wilfull misrepresentation of medical facts is neither ethical nor honorable, but no complaint is here made against this abuse of public confidence, but attention is called to the policy of supporting honorable pharmacists instead of the quack druggist.

THE AUXILIARY COMMITTEE.

There will be a meeting of the Joint Legislative Committee (State and Auxiliary) in Columbus early in September, notice of which will be sent to each member. In order to revise the list of auxiliary committeemen, the secretary of each county is requested to send the name of its auxiliary man to the secretary of the Ohio State Association, J. H. J. Upham, 186 East State street, Columbus.

AMONG OTHER TOPICS TO BE PRESENTED by C. O. Probst, member of the State Committee and representing the State Board of Health, is a substitute for the Deputy State

Health Officer Bill declared unconstitutional. The Hon. Samuel H. West, our legal adviser, will report bills on criminal abortion, medical advertising and sterilization of the defective classes. An amendment to place local health boards on the merit system free from the power of city councils to abolish will be presented. A revision of the defective law providing for the medical inspection of school children is much needed.

These are some of the more important subjects to be discussed. The questions of medical school inspection and the sterilization of defective classes have never been passed upon by the Joint Committee. They require careful study. Consultation with men interested in these forms of public policy will be necessary for final action. The State Association, represented by the Joint Committee, cannot afford to advocate any measure without mature deliberation.

THE WORLD IS LOOKING TO AMERICAN cancer laboratories for the most important results. Professor Ehrlich, after a visit to this country, says "the beginning of the end of the cancer problem is in sight." There are five cancer laboratories in the United States. One in every eleven men, and one in every eight women past the age of thirty-five die of cancer.

THE FOLLOWING RESOLUTION BEFORE the House of Delegates in the State Association at its last meeting was tabled:

WHEREAS, County local option laws are in force in a large majority of the counties of the state; and,

WHEREAS, The Ohio State Medical Association stands for the public policy expressed in this temperance move for the moral and hygienic betterment of the people; and,

WHEREAS, The prohibitive laws exempt the use of alcoholic preparations when prescribed by physicians or medicinal purposes; therefore, be it

Resolved, That the Ohio State Medical Association urge upon its members the observance of the intent and the letter of temperance laws in prescribing alcoholic preparations and recommend that physicians proved guilty of violating such laws be reported to the State Medical Board, with a view of having their license revoked on the charge of gross immorality.

TWO PHYSICIANS ARE NOW ON TRIAL before the State Medical Board on the charge of prescribing cocaine for improper use. If guilty should they suffer revocation of license to prac-

tice medicine in Ohio? Is the physician who prescribes whiskey, not as a medicine, but to aid in public debauchery, equally guilty of gross immorality with the one who prescribes cocaine? Is it desirable for medical men in each dry district to represent the intent of the prohibitory laws? What have the component societies to say on these questions; are they satisfied with this action, or will they instruct their delegates to the next state meeting?

VIOLATION OF VITAL STATISTICS—

Physicians who have refused to comply with the Ohio Vital Statistics law are getting into trouble. The state appears to know her business in providing for the welfare of her citizens. In granting a license to practice medicine she stipulates certain conditions; one is that the applicant shall qualify before the State Medical Board; another is that in practice he shall conserve the public health by reporting cases of communicable diseases and by observing quarantine regulations exacted by health authorities. The right to practice is also conditioned upon the reporting of birth and deaths. Undertakers, dealers in food stuffs and all trades people whose avocations come in relation to the public health are licensed to do business on condition they conform to the health laws. In case of failure the license is revoked. This conformity entails expenditure of effort and money without pay. Neither consistency nor the law, exempt physicians from this principle of action.

Don't be tempted to exclude gonorrhea because you see no bacterial or other evidence of vaginal or urethral infection. In women the presence of gonorrhea may not make itself known for six weeks or more, and salpingitis may be the first evidence.

—Surgical Suggestions.

In the treatment of fractures of the forearm no consideration is more important than the avoidance of contractures of the fingers, by the intelligent use of splints and by means of early, active and passive motion.

—Surgical Suggestions.

During the performance of a hernia operation it is often helpful for the anesthetist to allow the patient to react sufficiently to strain into view a sac that has slipped back into the abdomen.

—Surgical Suggestions.

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HAY FEVER.

The hay fever season is upon us once more to plague and irritate numerous worthy citizens of our communities. Like the sun which shines upon the righteous and the unrighteous, it is no respecter of persons and counts its victims among the medical profession, as well as the laity. The only service that it renders that we know of is that it forces many a hard worked doctor to take a vacation who would otherwise not get that much needed rest.

As a distinct disease, recorded such in medical annals, hay fever has reached the respectable age of ninety years, for it was first described by Bostock of England, in 1819, who wrote of his own personal suffering from the malady. Since then much has been done in the study of its etiology and treatment, so that at present we know at least our limitations—how much we can do for some and how little for others.

In a large per cent of cases the disease is distinctly dependent upon local abnormalities in the nasal passages, such as a polypoid growth or hypertrophied mucous membrane, abnormal turbinates, a deflected septum, etc., ordinarily insufficient to give rise to disturbance, but quite capable of doing so

in the presence of irritants such as the pollen of plants, odors, etc.

Such may be greatly relieved or even cured by proper local treatment.

There are others, however, in whom no local lesion may be demonstrated, and for whom local treatment brings only temporary and but short lived relief. Every individual therefore who knows himself (and we say *himself* advisedly for men are victims in the majority of cases—three to one) to be the victim of the disease should have his nasal tract carefully examined and all abnormalities corrected, if possible. No cure can be guaranteed; only subsequent experience will prove the success of the procedures. In case of failure or the lack of discovery of any morbid condition, the only sure escape for the victim is change of climate.

In choosing such the patient must be guided by experience. Generally speaking more are relieved in high altitudes, but on the contrary many do well at the sea shore, lake resorts, or on ocean trips and the like.

Home treatment for the attacks is uncertain and unsatisfactory, but must be undertaken where the victims of the disease are unable to get away. For such preparatory

treatment is sometimes of value; general systematic building up, with especially the giving of quinine, ten grains in a day for two or three weeks before the expected time of attack is of benefit in a few cases.

After the onset simple alkaline sprays make the condition more bearable. The addition of adrenalin in normal salt solution, the *Liq. Antisepticus Alkalinus*, or in a solution of Seiler's tablets (one tablet dissolved in two oz. of water), in the strength of 1 to 10,000, will give decided relief for a time. This may be used frequently, apparently without danger. In some cases of idiosyncrasy adrenalin causes an increased congestion with violent sneezing which contraindicates its use. Often a more lasting effect is obtained by using an ointment of adrenalin, 1 to 1000, in the nostril.

Cocain should never be used on account of the danger of the habit formation; nor should any of the proprietary ointments of unknown constituents be recommended or permitted, as many of them contain cocain.

A number of drugs for internal use are recommended as sometimes of benefit, such as potassium iodide, atropin, antipyrin, strychnin, thyroid extract, chloral, adrenalin extract, and in severe cases of associated asthma, morphine—with caution.

THE "CHARGES" AGAINST DR. SIMMONS.

The recent widespread dissemination of "charges" against the Secretary of the American Medical Association is, we believe, a matter to be deplored. Under his executive genius the national organization has grown from a struggling society to a strong and aggressive body which has accomplished a magnificent work in recent years for efficiency in drugs, honesty in medical advertising and advancement in medical education, besides giving us the best all around medical journal in the country today.

In comparison with his services the "charges" really seem puerile. We regret the advertising, but not an iota of evidence has been submitted showing anything of the sort since Dr. Simmons joined the regular profession and subscribed to our code of ethics. In regard to irregular graduation we feel that the charges are asserted—not proven. We doubt if any graduates of sixteen years standing could prove, if called upon to do so, by college records that they were in regular daily attendance. Few, if any, of the colleges in those days kept records of anything but examinations from time to time.

A conservative estimate shows that the securing and disseminating of the "evidence" for these charges has cost over ten thousand dollars! Their author may possibly be single minded and sincere, but there is a suspicion quite as persistent as Banquo's ghost, that, consciously or unconsciously, there are ulterior forces behind him. Who would be benefitted by the displacement of Dr. Simmons and the consequent change of policy in the American Medical Association? Would that Association? Would the physicians of the United States? Or would the nostrum makers, and other evil forces which have been met in fair fight the last few years—to their sorrow?

Dr. Simmons said with great feeling when called upon for a speech after his reelection—after a few words of thanks for the confidence expressed, "If every man should be judged by the least that he knew or the worst that he had done, God help all of us!"

Let us not be led astray by clever sophistries, nor duped into being cats-paws for others.

Aside from sentiment and the sense of justice which we should all possess, it seems to us that expediency if nothing else, should dictate our hearty support of the re-elected Secretary of the A. M. A.

AN ACTIVE OFFICIAL.

We are glad to note and commend the continued activity of our Dairy and Food Commissioner as indicated by the circular letter printed below under editorial notes. The recent laws were a great step in advance, and their strict enforcement must be insisted upon. Mr. Dunlap has shown a disposition to compel the compliance with the spirit of the law, but showing very good judgment in his interpretation as to the intent of same.

The circular letter below is one of a series issued to instruct the trade upon certain points upon which there may be misunderstanding or lack of knowledge—after such a warning there can be no excuse, and failure to comply with the condition indicated must be considered wilful or criminal negligence, to be punished accordingly.

The medical profession in the interest of humanity must insist on pure drugs and standard preparations, and will appreciate most cordially the efforts of Mr. Dunlap to these ends.

 EDITORIAL NOTES

A PERSONAL REMINISCENCE.

A few months ago I stood at the bier of one of my old teachers, P. S. Conner, scholar, man of affairs, brilliant surgeon, and—what is worth more—every inch a gentleman. When I was a student I had a mortal fear of this man, and yet, 'way down in my heart, a lot of respect for his scholarship. As an interne I was kept busy dodging him. Somehow or another we did not warm up to each other. When I left the hospital to embark upon the ocean of professional life, I called at his office to pay my respects to him. He overwhelmed me with cordiality, wished me success and told me to come in often and see him. I strayed away and did not see him for years. I did not wish to take up his time, and, never having quite gotten rid of my early impressions, had no very strong desire to be in his presence. Conner rose to national prominence after the Spanish-American war, when

President McKinley appointed him on the board which was to investigate the medical management of the army. About three years ago his health began to fail. He had buried his wife and never quite recovered from the blow. A promising son likewise died. Thus the old man was left alone. There were rumors that he was not in the best of circumstances. It was said that the very men whom he had befriended and who owed all their success, their position, to him, had gone back on him and that they had even taken advantage of his helplessness. Who would not be touched by such a tragedy in real life? One touch of nature makes the whole world kin. I found myself knocking at his door one afternoon about three years ago. I entered. There he was, proud and defiant as ever, but stooped and emaciated. There was the same fire in his eyes and the same savage determination about his lower jaw. But there was a strange softness to his voice. I did not have to be told that I was welcome. I felt and knew it. We talked about the olden times and had a good laugh over things that at one time were anything but laughable to me. This visit was the beginning of a warm friendship, the contemplation of which fills me with regret that I did not try to cultivate this jewel of a man years ago. About a year after my first visit I was in the habit of calling on him about twice a week. One day I took a copy of Mumford's "Medicine in America" and began to read to him. He was delighted. In discussing medical history with him, he remarked that there was one man who had never received his just dues at the hands of posterity. This man was Daniel Drake, the father of Western medicine, who deserves to occupy a place at the side of Benjamin Rush. There was a strange look in the old man's eyes when he remarked that the world is only too ready to forget the good deeds of men. Was Conner thinking of Drake or of himself? Suddenly he straightened himself out and, pointing his finger directly at me, said: "Somebody ought to write a book about Drake and about all the good he and those who followed him did. If I were younger I might attempt the task, but I am old and sick. I want you to write such a book."

This was about two years ago. I began to collect material and finally started to work in earnest, the old man watching over me and my work like a fond mother. He watched the progress of my efforts with keen interest, suggested, advised, aided, until the book was ready for the printer. One week before his death Conner held the manuscript in his hand and spoke words to me that will be a blessing and a solace to me for all time to come. I only regret that this grand old man did not live to see the book, which has now made its appearance.

The death of P. S. Conner removes one of the most conspicuous and most interesting characters from the ranks of the American profession. For many years he was professor of surgery in the Medical College of Ohio and in the Dartmouth Medical School, respected in the West and in the East as one of the great medical leaders of this country. To the people in the West who knew him intimately he was more than a great surgeon; he was the perfect model of a truthful and honorable man, a living object lesson of goodness, human, ethical and professional.

He was a man, take his for all in all,
I shall not look upon his like again

—Otto Juettner, Cincinnati.

Columbus, O., June 29, 1909.

To the Druggists and Others Concerned:

Investigations by this department show that the following subjects demand your attention:

Spirits of Ether (Hoffman's Anodyne)—There seems to be some difference of opinion among the trade as to what should be delivered when Hoffman's Anodyne is called for.

In view of the fact that this is the synonym recognized by the United States and National Dispensatories for Compound Spirit of Ether, and was also applied in the same way by the United States Pharmacopoeia as long as that work continued to print the synonym, this meaning of the term will be in future recognized by this department.

Druggists are therefore notified that sales under the name or label "Hoffman's Anodyne," the official Compound Spirit of Ether, should be dispensed.

(Hoffmann's Drops) This title is recognized by this department as applying properly to the simple Spirit of Ether of the United States Pharmacopoeia.

Sweet Spirit of Nitre—Your attention is again called to the importance of keeping this product in accordance with the provision laid down in the eighth edition of the U. S. P., which directs that it will keep in small, well stoppered, dark amber colored vials, in a cool place, remote from light or fire.

Tincture of Ferric Chloride—The Pharmacopoeia directs that this be kept in glass stoppered bottles, protected from light, the chemical action of which occasions reduction from a ferric to a ferrous salt. In many cases the reduction is so

marked that the tincture practically contains only ferrous iron. The necessity for the observance of these precautions is more important today than it was years ago, as this product remains on hand a much longer period.

Tincture of Iodine—For good and sufficient reasons, the Committee on Revision of the Pharmacopoeia, in the eighth Revision, provided that this tincture shall contain seven per cent iodine and five per cent iodide of potassium. A few druggists continue to sell and dispense a preparation that contains no iodide of potassium, or an insufficient amount. From this date the department will regard this omission as a deliberate adulteration and the guilty will be dealt with according to law.

Bay Rum—This is not official in the eighth edition of the U. S. P., but the standard therefore in Ohio is laid down in the appendix to the third edition of the National Formulary and also in the seventh edition of the U. S. P., the National and U. S. Dispensatories, and should contain about 57.34 per cent of alcohol.

Concentrated preparations are put on the market by various pharmaceutical houses, with directions for its use in preparing bay rum with dilute alcohol. When thus made the finished product will be materially deficient in alcohol, and below the lawful standard.

It is therefore recommended that the Standard process be exclusively followed, by using a menstruum of 1220 c. c. of alcohol to 762 c. c. of water instead of equal parts of alcohol and water. The department is instituting suits against parties who are selling bay rum with a low percentage of alcohol. The law was enacted for the protection of the public and the formulas for the guidance of the dispenser.

Solution of Hydrogen Dioxide—It seems to be the custom of many dealers to buy this preparation in large containers for dispensing purposes. Investigations show that in too many instances it is sold in small quantities at a time, from the original container, until it is all disposed of. By thus exposing to the air and frequent agitation, deterioration is hastened. This is gross negligence and should be discontinued.

When the solution is purchased in large containers, it should be transferred to smaller (preferably dark) bottles and kept in a cool place.

Lime Water—This is unstable when dispensed from large containers, which may require months to empty. By frequent opening and exposure to the air it absorbs carbon dioxide. The U. S. Dispensatory recommends the addition of an extra quantity of lime, but even if this is done and it is not carefully handled it will deteriorate. A good plan is to put it up in glass stoppered bottles of not over one-half gallon capacity, keeping but one package on the dispensing shelf and the remainder in a cool place.

Use of Hydrant Water in Dispensing—Pharmacists are frequently reported to be using hydrant or well water in cases where distilled water is required by the pharmacopoeia as one of the diluents. This practice is strongly condemned.

Alcohol—Druggists, in former years, to some extent used wood alcohol, under such names as "Eagle Spirit" and "Columbia Spirit," being assured by the manufacturers and their agents that

the same could be used in medicinal preparations intended for external application only. The Pharmacopoeia recognizes but one alcohol, ethylic or grain alcohol, for use in its preparations.

While speaking of this, attention is directed to the fact that the alcohol of the present Pharmacopoeia is practically identical with the "Cologne Spirit" of the old Pharmacopoeia, and is the product which the pharmacist is required to use in preparing pharmacopoeial products.

The Ohio law now prohibits the use of wood or methyl alcohol in any medicinal preparation, whether it is a U. S. P. or National Formulary preparation, or any patent or proprietary preparation, whether for man or beast, or for internal or external use.

Ammonia Water—This solution is frequently purchased in large carboys, and druggists fill their shelf or dispensing bottles from this as needed, taking no precaution to seal the carboy, in consequence of which there is a rapid deterioration. It would be much better to transfer the contents of the carboy to either glass or rubber stoppered bottles (glass stoppered preferred) the capacity of which should not be greater than one gallon, and kept in a cool place.

Misbranding of Patents or Proprietaries—A number of preparations on the market are misbranded within the meaning of the Ohio law. This is due largely to the dealers' negligence. Many dealers have gone over their stock in a thorough and systematic manner, secured the necessary information and affixed to packages requiring it the necessary stickers or labeling. All dealers having any of these goods on hand should see to it that the labeling is corrected, in accordance with the requirements given below.

Retail Packages—The principal labeling required on preparation (other than U. S. P., N. F., and physicians' prescriptions) is that requiring:

1. The quantity or proportion of alcohol, morphine, opium, cocaine, alpha or beta eucaine, heroine, chloroform, cannabis indica, chloral hydrate, acetanilide or any derivative or prepara-

tion of any such substances contained therein to be plainly stated on the label.

2. That no statement, design, or device regarding it or its ingredients or the substances contained therein, which is false or misleading in any particular, shall be stated on the label or package.

These features of the law are intended to and do cover all packages whether sold at wholesale or retail, and dealers selling goods in packages smaller than the original packages in which they are received should see that the law is complied with as to such retail packages, so that the purchaser who is to use the preparation may have the labeling required by law, before him and have the information the law contemplated he should have.

The amended law requires all drugs containing alcohol, morphine, etc., to have the quantity or proportion therein stated on the label. Many labels have been found which read as follows: "Contains not more than 50 per cent alcohol." Such labeling is incorrect. The label should state a definite amount.

Yours very truly,

Renick W. Dunlap,
Commissioner.

W. J. Means, of Columbus, has been elected dean of the Medical Department of the Starling-Ohio Medical College, to succeed George M. Waters. Dr. Means will maintain an executive office in the college administration building.

ANNOUNCEMENT TO SECRETARIES.

Hereafter secretaries are requested to send money for dues and assessments direct to the treasurer, James A. Duncan, 1107 Broadway, Toledo. Compliance with this notice will expedite matters materially.

STATE BOARD NEWS

EXAMINATIONS IN THE FUTURE TO BE IN ENGLISH ONLY.

At the meeting of the board on July 16 a motion to the effect that no one be admitted to the examination in medicine, osteopathy or midwifery who could not read or write the English language prevailed.

At the June examination there were thirty applicants in midwifery. Two of this number took the examination in English and twenty-eight in some foreign language, including German, Italian, Hungarian, Slavonian and Bohemian. Of this number seven failed. The requirements exacted by the Bureau of Vital Statistics was no doubt responsible for so large a number seeking registration.

Of the 183 applicants for licenses before the State Medical Board, all but fourteen passed satisfactorily in the recent examinations. The names of the successful candidates are:

Cincinnati—Edward A. Wagner, James Irwin, Ralph R. DuCasse, Albert C. Krumpelbeck, Sigmund Wolf, Philip H. Dorger, E. Israel Fogel, Matthew M. Applegate, Benjamin W. Gaines, Lewis A. Querner, William H. Strathmann, Faris M. Blair, Edgar C. Steinharter, Charles S. Early, Charles E. Eha, Charles H. Weintz, George H. Bradley, John W. Daehler, Harry E. Shilling, Anna M. Grentzenberg, Earl M. Culter, Grace M. Boswell, Carl G. Braunlin, Alvin C. Miller, Thomas L. Ramsey, John Swanson, Edith Smith, Robert J. Ertel, George N. Wenger,

Howard C. Hyndman, Gilbert Mombach, William Ravine.

Cleveland—John MacLachlan, Franklin D. Smith, Jr., William T. Miller, Vera E. Davenport, Michael E. Temcoff, Percy R. Vessie, Charles M. Swingle, Frederick C. Rounds, Mark C. Houston, Harold N. Cole, Ernest A. Duncan, Harold X. Shawan, William T. Gudel, Roscoe S. Hallock, L. Orton Davenport, Rienzi V. Myers, Otto F. Zimmer, William A. Landgrebe, Frank E. Sexton, Frank V. Duaderman, Hugh L. McNeeley, William G. Mussum, Oscar Houghton Love, Vernon C. Rowland, Waverly D. Bertz, Carl H. Campbell, Jens Anderson, John Dexter Osmond, Thomas R. Kennerdell, Arthur C. Tidd, Aaron F. Basinger, William D. Cleand, Elvin L. Dowthian, Ross Bradley Bretz, Harvey A. Berkes, Olin B. Norman, Frank E. McElree, Homer B. Corlett, William W. Scott, Bernard B. Buell, Edmund K. Kaworski, Earl C. Horne, Elmer E. Kepner, Erastus R. Alexander, Ellery Payne Edwards, Gordon N. Morrill.

Columbus—William H. Morgan, Charles F. Frosh, Kachig H. Meretzian, Irwin A. H. Bottenhorst, Elijah Joseph Gordon, Samuel Sumner Bailey, Arthur Noble Smith, Edward Charles Ludwig, John Roscoe McClure, Emilie Cordelia Gorrell, Ellis Ray Shilling, Roy Leon Chambers, Frederic Wanzer Brosius, Edward Henry Jones, Charles Elmer Holzer, Elisha Hughes Chapin, Calvin Homer Wyker, Ellis Ellsworth Mathews, Glenn Graham Edwards, Paul Rainey McLaughlin, Oliver George Grady, Edwin Forrest Shaffer, Jr., John William Means and Leonard F. Lauersweiler.

From Other Cities—Oscar H. Henninger, Ironton; Arthur W. Hopper, Lawrence, Pa.; William I. McCowan, Dexter City; Russell C. Campbell, Mansfield; George E. Strahler, Dayton; Walter B. Turner, Youngstown; Ernest J. Burnett, Rising Sun; Earl S. Haas, Weston; William C. Jones, Kenton; Edwin J. Lauber, Archibold; Harrie W. Moellering, Toledo; Irwin H. Boesel, New Bremen; Earl A. Stickle, Kenton; Clyde C. Boller, Ashtabula; Merrill D. Prugh, Rochester, N. Y.; Bert E. Lochr, Medina; Loy E. Hoyt, Chillicothe; Otto M. Rott, Germantown; Frederick J. Wilkiemeyer, Newport, Ky.; Benjamin F. Syman, Springfield; Howard P. Fishback, Newport, Ky.; Romeo A. Johnson, Newark; Edwin W. Breyfogle, Mt. Sterling; Edmund R. Brush, Zanesville; Andrew W. Prout, Sandusky; Floyd V. Miller, Delaware; Edward M. Clark, Mt. Vernon; Clarence E. Shepard, Dayton; Victor L. Magers, Tiffin; Granville H. Todd,

Leipsic; High H. Dorr, Elba; Leo R. Court-right, Celina; Charley M. Cunningham, McConnellsville; Joseph H. Frame, Cumberland; Thurman R. Fletcher, Pine Grove; Freeman A. Osborn, Long Bottom; J. C. Wetherill, Bluffton; Abraham J. Shoemaker, Grogan; Archie A. Brown, Carroll; Alexander F. Haas, Higby; Adelbert N. Vanderman, Seaman; Walter E. Obetz, valley Crossing; Edward M. Cass, Dresden; Arthur J. Pearce, Cleveland; Delbert C. Fox, Broadway; Edward O. Bauer, Batavia; Ada Ford, Mansfield; Edgar C. Davis, Canal Dover; Herbert A. Thomas, Lima; Franklyn A. Rice, North Olmstead; Edwin B. Godfrey, Dayton; James A. Ryan, Covington, Ky.; Noel G. Mussey, Glendale; Joseph G. Gray, Newport, Ky.; Ralph A. Bowdle, Salt Lake City, Utah; John H. Prince, St. Paris; Oscar H. Stuhlman, Arcanum; Frederick R. McVay, Sidney; Harold A. Budd, Perrysville; Charles F. Puterbaugh, West Milton; Charles C. Butt, Nelsonville; John W. Kelley, Detroit, Mich.; William L. Yule, Erie, Pa.; Lester J. Benson, Lakewood; Francesco Belfiglio, South Sharon, Pa.; Merle B. Stokes, Akron; Jacob M. Hyde, Loudonville; Andrew S. Brunk, Elida.

The board at its July meeting revoked the license of James M. Ernst, of Alliance, and postponed until the next meeting the case of James M. Nelson, of the same city. Judge Bow, of the Stark county Probate Court, reported to the board the statement of two boys that they had obtained cocaine from these physicians.

STATE BOARD QUESTIONS.

June 8, 9 and 10, 1909.

EXAMINATION IN CHEMISTRY.

1. Milk. Give its composition. What impurities are most common and how would you detect them?
2. What is the chemical difference between acids having the terminations ous and ic? What names are given to compounds of such acids?
3. What effect do alkalies have on gastric secretions?
4. Name and describe three general methods for the purification of water.
5. Explain where and how HCl is made in the human body.
6. How are urates formed in the system, and how would you recognize them?

7. What is a calcium sulphide? Give its properties and uses.

8. What are the common properties of the mineral acids?

9. State the toxicological effect of carbolic acid and the therapeutic measures you would employ in a case of poisoning.

10. What is meant by physiological antidotes? Name some you consider physiological for strychnine poisoning.

J. M. S.

PATHOLOGY, BACTERIOLOGY AND HYGIENE.

1. What is the microscopical appearance of the kidney during acute congestion?

2. Name the different kinds of tissue degeneration.

3. Name four possible sequelae which may follow peptic ulcer of the stomach.

4. Describe the microscopical appearance of a gumma.

5. What is the so called "nutmeg" liver? How caused?

6. What is the morphology of the bacillus mallei?

7. What diseases are caused by the following bacteria: Shiga's bacillus, Koch-Weeks bacillus, Klebs-Loeffler bacillus, diplococcus of Neisser, bacillus of Unna Ducrey?

8. What is a trap? What purpose does it serve in drains?

9. Describe the construction of a filter for river water to be used for drinking purposes by the people of a small city.

10. How many cubic feet of air is necessary for each patient in a general hospital?

J. A. D.

SURGERY.

1. Describe a compound comminuted fracture and give general treatment for same.

2. Where are ununited fractures most commonly found and give some of the causes and treatment.

3. Describe ileus and give treatment.

4. What injuries are common to the knee joint and give treatment for same.

5. Give diagnostic symptoms and treatment of incipient coxalgia.

6. Describe symptoms and give treatment of flat foot.

7. Give diagnostic symptoms of tubercular kidney.

8. Give technic of suprapubic prostatectomy.

9. Give symptoms and surgical treatment of renal calculi.

10. Describe surgical management of chronic cystitis.

H. E. B.

PHYSIOLOGY.

1. What are some of the properties of protoplasm?

2. Describe a neuron.

3. What is amoeboid movement?

4. What are capillaries and what function do they perform?

5. What forces contribute to the flow of blood through the veins?

6. What is reflex action?

7. In what does digestion and nutrition consist?

8. What function is performed by hydrochloric acid in digestion?

9. What is the nutritive value of proteids? Name some articles of food containing a large proportion of proteid.

10. How should cow's milk be modified to resemble human milk?

H. H. B.

ANATOMY.

1. Enumerate the bones forming the orbit.

2. Give the nerve supply of the stomach.

3. Name the ligaments of the knee joint.

4. Describe the lungs, briefly.

5. Describe histologically the structure of the kidney.

6. Give the arteries arising from the thoracic aorta in order, beginning at the heart.

7. Give the composition of bones and classify them.

8. Name the structures forming the larynx.

9. Describe the gastrocnemius muscle.

10. Describe the femur.

S. M. S.

DIAGNOSIS.

1. State pathological significance of an excessive respiratory action of the abdomen; abdominal respiration.

2. A persistently frequent pulse in persons without fever—what affections may it suggest?

3. What pathological significance is attached to amenorrhoea?

4. What results follow a back pressure of the superior cava?

5. State physical signs of pyloric stenosis.

A. R.

PRACTICE OF MEDICINE.

1. Name four diseases in which a leucocyte count of over 25,000 is probably present.

2. Differentiate a large ovarian cyst from hydronephrosis of the right kidney.

3. Differential diagnosis of lead colic.

4. Name the cardinal symptoms of aortic stenosis.

5. How would you treat broncho pneumonia in a child?

J. A. D.

6. Diagnose empyema. How treat it?
7. Differentiate gall stones and appendicitis.
8. What is paranoia? S. M. S.
9. How would you manage a case of pulmonary tuberculosis in an ordinary family and home, with a view to the prevention of infection to others?
10. What is the difference between active and passive hyperaemia? J. M. S.

DERMATOLOGY, SYPHILOLOGY AND DISEASES OF THE
EYE, EAR, NOSE AND THROAT.

1. Describe scabies. What is the cause of the disease? How is it treated?
2. What is dermatitis? Mention its varieties.
3. Describe psoriasis.
4. Are there any general characteristics to distinguish syphiloderma from other diseases of the skin?
5. What is syphilitic gumma?
6. How do you recognize astigmatism subjectively and objectively?
7. Define glaucoma, enumerate its varieties and mention principal symptoms.
8. Describe symptoms of catarrhal otitis media.
9. Describe mucus polypi of nasal cavities and give their causes.
10. Chronic laryngitis; symptoms and causes.

A. R.

OBSTETRICS.

1. What factors make up the expulsive forces of labor?
2. What group of symptoms and what signs in particular would suggest to you pregnancy in a primipara at two months gestation?
3. Give the measurements obtained by external pelvimetry that would indicate a normal birth canal. What value can be placed upon such measurements?
4. What advantage, if any, to mother and child is gained by intermittent contractions of the uterus during labor?
5. In endeavoring, wholly by external examination, to determine the presentation and position of the fetus at about term, what anatomical guides are employed?
6. Describe the development of the bladder in embryo.
7. Make a differential diagnosis between a fibroid of the uterus and an ovarian cyst.
8. Give briefly the etiology and treatment of suppurative inflammation of a vulvo-vaginal gland.
9. Give the causation and general symptomatology of subinvolution of the uterus.
10. What treatment would you suggest for senile vaginitis? E. J. W.

MATERIA MEDICA AND THERAPEUTICS.

(Homeopathic)

1. What is understood by the homeopathically indicated remedy?
2. What is understood by the polychrests and give leading indications for two of them?
3. Compare symptomatically aconite and gelsemium.
4. Compare symptomatically arnica and hypericum.
5. Compare symptomatically pulsatilla and sepia in female diseases.
6. Give indications for three different remedies for la grippe.
7. Give indications for three different remedies for diarrhea.
8. Give general treatment for pneumonia, also naming three drugs with leading indications.
9. How would you prepare the first dilution of bryonia and the third of phosphorus?
10. When would you use galvanism and when the faradic current? H. E. B.

MATERIA MEDICA AND THERAPEUTICS.

(Eclectic)

1. Name five hemostatics.
2. What is the source of santonin? Give use and dosage.
3. From what sources are the following specific medicines obtained? Macrotys, chionanthus, nux and dioscorea.
4. What is meant by the selective action of a drug? Give examples.
5. Give indications, uses and dosage of collinsonia.
6. Give indications for use, chionanthus, eryngium, rhus tox, ipecac and belladonna.
7. Give two examples of the double action of drugs.
8. Name the constituents of comp. emetic powder, Dover's powder and neutralizing cordial.
9. Give names of four alteratives. Indications for exhibition of each.
10. When would you use galvanism and when the faradic current? S. M. S.

MATERIA MEDICA AND THERAPEUTICS

(Regular)

1. Name and give the physical characteristics and properties of the official salts and preparations of mercury commonly employed.
2. Name the more important official preparations of digitalis. Under what conditions would you prescribe each?
3. Name the various serums whose place in medicine is recognized and give uses of each. Also state modes of administration.

4. In what form should the iodides be administered? With what are they incompatible?

5. Discuss the comparative value of ether and chloroform as general anaesthetics. Give contra indications for each and treatment for untoward effects.

6. In what particular conditions would you advise suggestive therapeutics? State briefly how you would manage a case requiring this treatment.

7. What symptoms follow the continued use of cocaine? How would you treat a cocaine habitue?

8. What indications would suggest digitalis or the nitrite group in cardio vascular disease?

9. Define alkaloids, give their common characteristics and physical properties.

10. When would you use galvanism and when the faradic current? E. J. W.

CERTIFICATES REVOKED.

At the meeting of the Board on July 6 the certificate of James M. Earnst, of Alliance, was revoked upon the charge of gross immorality. It was claimed that Ernst prescribed cocaine indiscriminately knowing that the person for whom it was prescribed intended using it for improper purposes.

The certificate of John G. Colton was revoked upon the charge of gross immorality, it being shown that he had plead guilty to having mailed matter which informed the recipient where and how to obtain a remedy that would cause an abortion.

A third case in revocation was heard, the charge being the indiscriminate prescribing of cocaine for improper purposes. The decision of the Board in this case has, however, been reserved.

The hearing of the matter of the application for the revocation of the certificate of Edward F. Sager, of Columbus, who has been charged with gross immorality in that he made false returns to an insurance company for which he was the medical examiner, was to have been continued by the Board on July 6, but an injunction and temporary restraining order prevented further action by the Board until said injunction is removed.

An application for the revocation of the certificate of F. J. Collison, of Columbus, has been filed with the Board, it being charged that he has

been found guilty of the illegal sale of cocaine. A temporary restraining order has been secured, and until removed the Board cannot act in the matter.

BOOK REVIEWS

CLINICAL DIAGRAMS, designated for the graphic representation of clinical phenomena for preservation, with notes of cases, by James C. Wilson, M. D., Physician to the Hospital of the Jefferson Medical College, etc.

These carefully prepared diagrams, so arranged as to show graphically and schematically the various lesions of the chest and trunk, will be of great assistance in keeping case records. The appropriate slip may be attached to the history sheets and will lead to greater exactness in case records as well as in diagnosis. Their use is highly commended.

DANIEL DRAKE AND HIS FOLLOWERS, Historical and Biographical Sketches by Otto Juettner, A. M. M. D., Fellow of the American Academy of Medicine, the American Association for the Advancement of Science, the Ohio Historical Society, etc. The Harvey Publishing Company, Cincinnati. Price \$5.00 net.

In publishing the above Dr. Juettner has accomplished a monumental work of great interest to physicians of the central west. In these too strenuous days, too few of us stop to realize the great privations our fore-runners were called upon to bear, and to what handicaps practitioners of medicine were subjected. In reading the pages of Dr. Juettner's book, these old pioneers are made to live again and as one notes their heroic struggles it is an inspiration and encouragement to seek to emulate their efforts in behalf of medical science and medical education in their section of the country. "And there were giants in those days." but what a record also of professional jealousy and hatred! These banes of the medical profession sully the pages of history and "point a moral and adorn a tale." Nevertheless in portraying these also, Dr. Juettner has done us a service.

The work is not only devoted to the pioneer physicians, but includes also biographical sketches of their "followers" down to the present day. In writing of the older men the author has evidently endeavored to carefully weigh all the evidence as found in the mass of historical data, the review of which must have been a tremendous task, and has everywhere sought to give a just and unbiased record of the times and events. In treating of his contemporaries, the same justness and fairness has been exhibited.

The medical profession is deeply in debt to Dr. Juettner for the unselfish labor and devotion evidently given to the production. To the thousand of graduates of Cincinnati of all schools it will be a matter of great pleasure to read of the records of their colleges and bring to them recollections of student days. We heartily congratulate Dr. Juettner and ourselves for this addition to our literature.

EPOCH-MAKING CONTRIBUTIONS TO MEDICINE, SURGERY, AND THE ALLIED SCIENCES, being reprints of those communications which first conveyed epoch-making observations to the scientific world, together with biographical sketches of the observers. Collected by C. N. B. Camac, M. D., of New York City. Octavo of 435 pages, with portraits. W. B. Saunders Company, 1909. Artistically bound, \$4.00 net.

We are glad to have the opportunity of recommending this work to the medical profession, and feel that Dr. Camac has done it a great service in bringing these famous, and he has well named them, epoch making scientific treatises, within the reach of everyone. While the main facts of these papers are known to all, it is a matter of great interest to read the original reports and learn through them the process of evolution and gradual development of the new ideas. More than that, it is almost essential for the thoughtful practitioner who desires to be broad-minded and conversant in the history of our profession, to read and ponder over such reports through which one gains not only at first hand the accounts of these new discoveries, but also a knowledge of the medical conditions in past days, and an almost personal acquaintance with the intellectual giants of their respective ages.

It is not given to the majority of practitioners to have convenient access to the great libraries where such medical treasures are to be found and therefore we repeat, Dr. Camac has conferred upon us a great benefit in presenting in such an attractive form these contributions which, selected with excellent judgment, stand for the greatest advances in medical science.

PRINCIPLES OF PHARMACY, by Henry V. Arny, Ph. G., Ph. D., Dean and Professor of Pharmacy in the Cleveland Pharmacy, Department of Pharmacy, Western Reserve University, Cleveland. W. B. Saunders Company, Philadelphia and London.

This is one of the most valuable and comprehensive works upon the subject of pharmacy which has ever been presented to the American physician and pharmacist.

It is well arranged, thoroughly systematized

and covers the subject in sufficient detail to meet every requirement.

The work is based upon the United States Pharmacopoeia, but proper consideration is given to these unofficial remedies and preparations which have proven themselves to be of value.

Part I deals with pharmaceutical processes, discusses and explains most clearly the arithmetic of pharmacy.

Part II considers the preparations (galenical) of the pharmacopoeia and such unofficial preparations as are worthy of consideration.

Parts III and IV deal with the inorganic and organic chemicals used in pharmacy. The modern classification used in this connection is especially worthy of commendation.

Part V presents the subject of chemical testing, giving all of the tests of the pharmacopoeia in a well systematized manner. This is a feature which is comparatively new to works on pharmacy and adds much to the value of this book.

Part VI devoted to the writing, compounding and dispensing of the prescription is especially valuable to the physician. The author calls attention to the many common errors in prescription writing and compounding and shows how these may be avoided.

The last section of the volume is devoted to laboratory work and seems to be of special importance to students of both medicine and pharmacy.

To physicians especially those who find it necessary to dispense their own drugs the work is one to be highly recommended. It cannot fail to be well received by the pharmacist who will find it invaluable for ready reference.

A MANUAL OF THE DISEASES OF INFANTS AND CHILDREN, by John Rurah, M. D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Second edition, Philadelphia and London. W. B. Saunders Co.

This little work is intended primarily for the medical student, but will be found of service for quick reference by many a busy practitioner. The chapter on infant feeding is particularly good and is recommended to those who have difficulty in figuring out percentages for the various formulas in preparing milk mixtures.

The importance of collateral reading is kept constantly before the reader by references to original articles, the latter being indicated in foot notes. While necessarily condensed, the work is unusually comprehensive. It is well written, well illustrated, well mounted, and the early ap-

pearance of the second edition indicates that it has been well received by the medical profession.

PROGRESSIVE MEDICINE, A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences, edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by H. R. M. Landis, M. D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital.

The June number of *Progressive Medicine* presents a collection of very interesting articles.

William B. Coley contributes a most comprehensive review of the subject of hernia which is made doubly valuable by the illustrations which accompany it.

An exhaustive review of the surgery of the abdomen is presented by Edward M. Foote. The newer ideas of the relation of diseases of the gall bladder and pancreas are well discussed. The subdivision dealing with the intestines presents some very excellent illustrations.

Clark's review of gynecology, especially cancer of the uterus, is very practical and presents interesting and valuable statistics.

Stengel's article covering the subjects, diseases of the blood, diathetic and metabolic diseases, diseases of the spleen, thyroid gland and lymphatic system is deserving of special commendation, presenting in a limited space all the newer ideas and suggestions upon these important subjects. The reviews of pernicious anemia and exophthalmic goitre are especially good.

Edward Jackson's article reviews the subject of ophthalmology in a practical manner which is interesting to the general physician as well as the ophthalmologist.

This is one of the best numbers of *Progressive Medicine*.

ARTERIOSCLEROSIS. ETIOLOGY, PATHOLOGY, DIAGNOSIS, PROPHYLAXIS AND TREATMENT, by Louis M. Warfield, A. B. M. D., Instructor in Medicine, Washington University Medical Department; Physician to the Protestant Hospital; Adjunct Attending Physician to the Martha Parsons Hospital for Children, St. Louis, Mo., etc., with an introduction by W. S. Thayer, M. D., Professor of Clinical Medicine, Johns Hopkins University. C. V. Mosby Medical Book Co., St. Louis, Mo.

This is a well written monograph on a subject of particular interest not only to internists, but to surgeons and specialists as well. If "the blood is the life," the condition of the blood vessels is shown by Warfield to be the key to the health of the individual.

Pathologic processes, local and general, of great variety are dependent upon changes in the arteries, the careful study of which is really necessary to a better comprehension of the often more obvious lesions.

The author gives a necessarily brief, but quite comprehensive and practical review of our knowledge up to date. His treatment of his subject is systematic and comprehensive. He considers briefly the anatomy and physiology of the blood vessels, and the blood pressure, then more at length discusses their pathology. He emphasizes what is so frequently overlooked, the irregularity of the sclerotic changes throughout the arterial system. In the chapters on symptoms and physical signs he adheres closely to the subjective and objective evidences of the vessel changes alone.

The chapter on treatment is as satisfactory as we can expect at the present time and the practical suggestions offered are timely and well worth keeping in mind.

In cut throat wounds where the thyro-hyoid membrane has been severed, it is necessary, in order to restore perfect phonation and deglutition, to suture the membrane accurately.

—Surgical Suggestions.

In excising a varicocele under local anesthesia, tie the upper ligature first; the pain of tying the lower ligature will then be abolished.

—Exchange.

A furuncle deeply situated in the external auditory canal gives signs that may be mistaken for mastoiditis. Great pain when the concha is moved about, will serve to differentiate it from the latter.

—Surgical Suggestions.

Orchitis after an operation for hernia is best relieved by a wet or glycerine dressing with elevation of the scrotum.

—Exchange.

The presence of an indefinite mass in the abdomen of a child running an intermittent temperature may mean a tuberculous peritonitis.

—Exchange.

It is worth while bearing in mind that subcutaneous swelling are sometimes gummata.

—Surgical Suggestion.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

ANAPHYLAXIS.

A general understanding of the term anaphylaxis is to be had from an article by Smith (Wis. Med. Jour., April, 1909, p. 643).

"It owes its derivation to *ana*, meaning "against" and *phylaxis* meaning "protection," the literal translation meaning "against protection."

Anaphylaxis, also known as hypersusceptibility and supersensitiveness, is a condition which a body may be made to assume so that its susceptibility to a foreign body is highly increased—the proteid group of substances being the factors generally used to induce this condition."

The term is usually applied to supersensitiveness to sera which are used when we use antitoxins. The antitoxic properties are separate from the anaphylactic properties which are due to the proteid substance of the serum and are common to all sera, *whether antitoxic or not*.

"The time for sensitization to occur has been placed at from eight to twelve days—that is, eight to twelve days are to elapse after the first injection until the pig will die as a result of the second injection. The period of sensitization lasts, according to some observers, over a year. The dosages that have been used to produce this sensitization have varied; as small as 1/1,000,000 of a c.c., and as large as 10 c.c. have been used successfully. The average dose is from 1/100—1/1,000 c.c.

In a certain number of cases the injection of horse serum into man is followed by urticarial eruptions, joint pains, fever, swelling of lymphatics, edema and albuminuria. This reaction appears after an incubation period of from eight to thirteen days. This is the so-called "serum disease" of von Pirquet and Schick. In a large number of cases the injection of horse serum into man produces little or no effect. In several cases death has followed the injection of horse serum (antitoxin)."

[When death occurs it is usually sudden and follows the injection almost at once. There is an intense diffuse urticaria, rapid pulse and *respiratory failure*. Individuals with status lymphaticus, and, as a rule, those subject to asthmatic attacks when about horse stables should not be given antitoxin.—Ed.]

"To practicing physicians the subject is interesting along very serious lines. For instance, suppose you are called to see a child who receives a puncture wound from a nail, rake or any sharp

instrument; you fear tetanus and inject anti-tetanic serum. Then a month later the child contracts diphtheria. What will you do—has the first dose sensitized the child—are you liable to kill with your diphtheria antitoxin? The question now comes to the physician, and knowing the conditions that have occurred in animals, and what may occur in people, the question is one of rather grave proportions. The investigations with anaphylaxis have proven that in animals not highly sensitized the explosive reaction was not severe, and after the explosion the serum or albumen group could be injected with impunity and no further trouble was experienced. The answer to the question what to do is as follows: Two conditions must be assumed for the patient. If the patient is in grave danger and will probably die without antitoxin, there is only one thing to be done—the child may die from the antitoxin, or will die without it from the disease—take the chance and inject the antitoxin. If, however, the child is not very sick and you want to use antitoxin, the thing to do as suggested by the investigators is to inject small amounts of serum in ascending doses at short intervals and gradually overcome the supersensitive condition and secure a so-called immunity to the serum."

STANDARDIZATION OF DIGITALIS PREPARATIONS STILL UNSATISFACTORY.

Bulletin 48 of the Public Health and Marine Hospital Service shows that the various methods of physiologically testing digitalis preparations are not satisfactory and that the products of our pharmaceutical houses are of uncertain values. Different samples of the same make were found to vary widely in strength. Evidently the best the physician can do is to get as recent a preparation as possible, one that looks clear, and then gauge the dose according to the clinical results. This is unfortunate but we should know the facts and act accordingly while awaiting more accurate methods of assay.

GANGRENOUS APPENDICES.

The occasional report of unlooked-for perforations and, even where perforation does not exist, the occurrence of post-anesthetic-toxemia and death in cases where operation is delayed, should impress on the medical mind that appendicitis is not a medical disease, not because cases do not recover under non-surgical treatment, but

because no surgeon or physician can foretell that a given case will recover without operative interference. Balcom (Jour. Minn. State Med. Assoc., April 15, 1909, p. 179), answers his own query "How are we to know when we have a gangrenous case?" when he writes: "Tyson says, 'Finally, too much stress cannot be laid upon the fact that there may be gangrenous appendicitis in the presence of normal temperature.' Anders says, 'Gangrenous appendicitis is most deceptive,' and Butler says, 'A gangrenous appendix may be present with a most misleading mildness of symptoms.'"

CAUTION IN THE TREATMENT OF EYES BURNED BY EXPLOSIONS.

Chapman (Jour. M. S. M. S., June, 1909, p. 226), says: "If the pain is intense, usually some form of cocain must be used before the eye can be opened enough to clear away the debris. The writer's experience is that pain is more severe in superficial burns than in deep ones. No more cocain should be used than is absolutely necessary, as it has a tendency to devitalize weakened tissues. As soon as the eye can be opened all dirt should be cleared away as carefully as possible. The foreign bodies in the conjunctiva may be removed as thoroughly as possible. If the corneal epithelium is filled with foreign bodies the writer believes it is best to not endeavor to pick out many of these by an instrument at the first dressing. It is impossible to know how deeply the cornea is injured. Very much manipulation of that structure might cause more damage than would otherwise occur on account of the burn alone. It should be cleaned as much as may be by irrigation and slight operative proceedings. Filling the eye then with a bland oil, over which the eyelids are closed, will usually lubricate the foreign bodies enough to prevent irritation and scratching of the lids by them. At the next dressing a great many of these foreign bodies will be found to have come loose spontaneously. Others that are still embedded may then be carefully removed."

Of a patient who recovered with good sight after the above treatment he says: "The cornea was white and filled with foreign bodies, including many grains which were driven into it and the folds beneath the eyelids were filled with foreign bodies. All loose foreign bodies are removed from the eye and all from the conjunctiva. The cornea was so thoroughly covered with them that I decided to let it alone until second dressing, when I could determine more definitely the depth of the burn. The eyes were filled with bland oil and closed, care being taken to leave a large

quantity of the oil under the closed lids. This was in early evening. The dressing was not disturbed during the night, as the boy was resting very comfortably all night. The next morning the eyes were opened and I was much astonished to find a clear bright cornea of each eye. The burn had destroyed the epithelium only, and this had come away from the next layer of the cornea and carried with it all of the foreign bodies which had covered the cornea the evening before, with the exception of a few which had been driven into the deeper structures of the cornea. These were removed by the use of a spud. Under treatment both eyes went on to uneventful recovery with but a very few tiny white scars of the cornea, where the foreign bodies had been most deeply embedded."

CANNABIS INDICA OF USE AGAINST MIGRAINE.

Cannabis indica is often forgotten when we desire to relieve headache. It is well known that the severe headache sometimes seen in typhoid patients is readily relieved by two to five gtt. of the *fluidext*, given at three-hour intervals. The following clipping notes its value in migraine:

"It is doubtful whether there has yet been found a drug more efficient for the relief of migraine than *cannabis indica*. Twenty drops of the *tincture*, three times a day, should be given. I have just discharged a case where the attacks came three or four times a week. During and after the use of a two-ounce bottle she has remained well for some months. Dr. Wolf, Medical Seminary."

THE SPLEEN AND RESISTANCE TO DISEASE.

Hubbard (Bost. Med. and Surg. Jour., June 10, 1909, p. 743), from experiments concluded that the spleen is not essential for resistance to disease. "Two splenectomized pigs died of general infections, the controls surviving. One splenectomized pig died of general infection, there being no control. A splenectomized pig died of a local infection, not at the point of inoculation, some time after its control died of a general infection. A control died of a general infection, while the splenectomized pig lived until killed. Both the splenectomized pig and the control lived until killed. From these few experiments it appears that there is no marked difference in the ability of splenectomized and normal guinea pigs to withstand infection artificially produced by the *staphylococcus pyogenes aureus*."

The history of patients subsequent to splenec-

tomy bear this out. In the summer of 1905 he removed the spleen from a man because of rupture. "His occupation is one in which his fingers are often bruised and cut. He reports now (three and three-quarters years after the operation) that his cuts heal as readily as before and that he is no more susceptible to colds and illness than formerly. The only sickness he has had since the operation was quinsy sore throat, for which an incision was necessary. Were there a decrease in susceptibility as a result of splenectomy, it certainly would have been noticable in some of the many human cases and would have been commented upon. It seems proper, therefore, to conclude that the removal of the spleen does not alter practically the individual's susceptibility to infection and that its functions in this respect, if they do actually exist, on its removal are readily taken up by other organs."

[The above conclusions are borne out by the experiences of Ochsner and others.—Ed.]

TREATMENT OF SCURVY RICKETS IN A BREAST-FED CHILD.

Kellock (Lancet, Oct. 31, 1908), reports the following case and treatment:

"When seen the child seemed to be in fairly good condition, and the only part affected was the upper end of the right tibia; here a doughy, tender swelling of some size completely surrounded the bone and the child would make no effort to use the limb. The mother was directed to continue nursing the child, but to give her as well a little orange juice twice a day, and at the same time she herself was ordered a mixture containing iron and sulphate of magnesium. Care was taken that the mother herself received sufficient food. The result of this treatment was immediate and rapid, as far as the child was concerned; the swelling on the tibia first became much less tender and in three weeks had almost completely disappeared.—Medical Record."

ANESTHETICS.

"Haste in Adopting New Things, from the Kansas Medical Society Journal: Are we not too easily influenced in adopting the 'new' things in medicine? For instance, in anesthetics many have cast aside ether anesthesia for scopolamin—morphin—cactin, when the percentage of deaths from the former has been proven by Woods to be but one in 16,000. The same author has proven that the mortality in the latter has been one in 300. There may be instances when scopolamin-morphin-cactin anesthesia is preferable, but it is safe to assume that it will not sup-

plant ether. This is also true of the spinal injection of tropo-cocain. There may be a few instances when it is advisable, but it is hardly probable that it will reach the universal usage that ether or even chloroform has." * * * *

"The statistical mortality of our chief anesthetics stands today about as follows: Chloroform, 1 in 3,200; ether, 1 in 16,000; nitrous oxide, 1 in 50,000; nitrous oxide (followed by ether), 1 in 30,000; nitrous oxide with oxygen, no deaths in at least 200,000 cases; nitrous oxide with oxygen, followed by ether, no deaths."—Burkard in Western Med. Review.

[These statistics show that *complete surgical* anesthesia by scopolamin-morphia, or hyoscine-morphin is not a method for general use. That spinal anesthesia is safer than scopolamin-morphin can be shown by statistics. Neither of these methods should be used where *local infiltration* or *nerve-block* anesthesia can be efficiently used. In general, *inhalation* anesthesia should not be used, where *local* methods give as good results; spinal anesthesia is of value in special cases, as is scopolamin-morphin anesthesia; and don't forget all anesthetics have their *dangers* which should be *fully* weighed before the *patient* is subjected to them.—Ed.]

TREATMENT OF RINGWORM.

Kilmer has seen many cases of ringworm in the pediatric clinic. It may affect the skin or present itself in the hair. There are many ways of treating this condition, and practically all of them have been tried. One treatment has consisted of prescribing a solution of 2 grs. of mercury bichloride dissolved in 1 oz. of the tincture of iodine. This is applied daily by means of a small camel's-hair brush to the site of the ring-worm. The mother is also instructed to give daily a shampoo of green soap or castile soap, after which she applies one coat of the iodine-mercury solution. The child is brought to the clinic every second day. After the crusts are removed and all evidence of the affection has disappeared, plain vaselin or boric acid ointment is applied daily until the skin is smooth and all evidence of redness caused by the iodine irritation has ceased. In most cases of ringworm of the scalp, the hair will grow in after a few weeks.—N. Y. Polyclinic, Dec., 1908, via Mercks Archives.

CLASSIFICATION OF MALARIA PLASMODIA.

Craig's work on malaria plasmodia has been extensive and instructive. He believes that the quotidian estivo-autumnal plasmodium is a sub-

species of the tertian type. It may be of academic interest to quote his proposed classification of malaria plasmodia (Boston Med. and Surg. Jour., May 27, '09, p. 677):

"Division. *Protozoa*.

"Class. *Sporozoa*.

"Order. *Hemosporidia*.

"Genus. *Plasmodium*.

"Species:

"1. *Plasmodium malariae*, Marcia et Celli. Quartan malarial plasmodium.

"2. *Plasmodium vivax*, Grassi et Feletti. Tertian malarial plasmodium.

"3. *Plasmodium falciparum*, Blanchard. Estivo-autumnal plasmodium, tertian type.

"Sub-species:

"4. *Plasmodium falciparum quotidianum*, Craig, 1909. The quotidian estivo-autumnal plasmodium."

HEXAMETHYLENAMIN U. S. P. (Urotropin) VALUABLE IN THE TREATMENT OF MENINGITIS.

Crowe (Johns Hopkins Bul., April, 1909), gives the results of investigations on the absorption of hexamethylenamin administered by mouth or rectum, and its presence in the cerebrospinal fluid obtained by subsequent lumbar puncture. It is shown to have an inhibitory effect on growths of cultures invitro and experiments are cited in which the inhibitory and even preventative effect was evident in animals purposely infected.

The investigations were incited by the recovery from a cerebrospinal fistula by a patient in whom a fatal infection was naturally anticipated.

During the past year it has become a routine measure in the Johns Hopkins Hospital to administer urotropin promptly to all patients with lesions which are not infrequently followed by meningeal infection, and the complete absence of such complication in quite an extensive series of cases seems to establish the prophylactic importance of the drug. This series included compound fractures of the skull, gunshot wounds of the head and cerebrospinal fistulas, the patients receiving 30 to 60 grs. urotropin daily. It is also used prior to ventricular or lumbar puncture, when local conditions make possible the inoculation of the meninges from an infected skin; and, too, urotropin should be given before a first catheterization or one done when urethral infection is present. Possibly, too, the drug may wisely be used in cases of extracranial infection when extension to the meninges is feared, as in infected scalp wounds, otitis media, suppurative of the

cranial sinuses. Its use may be desirable also in elaborate spinal or cerebral operations.

The author summarizes:

1. Urotropin, given by mouth, invariably appears in the cerebrospinal fluid. This fact has been demonstrated by observations on man and on dogs and rabbits.

2. The largest amount of urotropin is present in the cerebrospinal fluid from thirty to sixty minutes after ingestion of the drug.

3. After therapeutic doses a sufficient amount of urotropin appears in the cerebrospinal fluid to exercise a decided inhibitory effect on the growth of organisms inoculated into this fluid after removal from the body.

4. Following a subdural inoculation of dogs and rabbits with streptococci, 60 to 80 grs. of urotropin a day, given under conditions which insure absorption, will markedly defer, and in some cases prevent, the onset of a fatal meningitis.

5. The prompt administration of urotropin is advised in all clinical cases in which meningitis is a possible complication, or even when meningeal infection has actually occurred."—Via Merchs Archives.

BROMIDROSIS.

Occasionally a patient will be met who suffers from bromidrosis—stinking sweat. This powder (Am. J. of Clin. Med.) will be found quite effective:

R Bismuth subnitrate, ʒj.
Potass. permanganate, ʒiss.
Rice powder, ʒij.

Dust well i the axillæ and groins with a piece of cotton twice daily, and sprinkle liberally on the feet, in the stockings and in the shoes.

[Formalin (40% sol.) ʒj in aqua 16 oz., used as a foot bath one to three times a week, relieves the sore feet and does away with the odor and sweating.—Ed.]

LOCAL ANESTHESIA.

McArthur (Jour. Surg. Gynec. and Obs., June, 1909, p. 578) reviews the subject, field and technic of local anesthesia. Those who do surgical work should read this article. Saving of time for the operator or lack of anatomical knowledge can no longer excuse the needless use of general anesthetics. Physicians owe it to their patients to know what can be done under local measures and to insist that the interest of the patient is served, first, last and all the time. McArthur says:

"In our larger hospitals it is so easy to have brought to the operating room in rapid sequence

our patients, anesthetized and ready for immediate operation, that *the tendency still exists to conserve the operator's time and comfort rather than the patient's best interest.* (Italics ours.—ed.) For many of these could more safely and with less distress to the patient have had the same done by local anesthesia. Finally, a by no means insignificant number of patients will permit operative interference under local anesthesia who refuse absolutely a general narcosis."

THE DOSE AND ACTION OF PHENOL-PHTHALAIN.

"It is not a proprietary drug and it is inexpensive. In proper doses it produces a large, copious and natural action of normal consistency and does not cause any other symptom of any kind. If the dose is too large, the motion is watery; that is all. It is especially good in chronic constipation and can be used indefinitely without harm or without losing its effect. The dose, in capsules, is from one to fifteen grains, as required. Some patients react to very small doses, while others may require the maximum. Action is obtained in about ten to fifteen hours."—Med. Council in Cleve. Med. Jour.

HOT ENEMA TO OVERCOME SUPPRESSION OF URINE.

"In suppression of urine, sodium bicarbonate in 40 or 50 grain doses every four hours will sometimes quickly promote a return of the secretion, especially if it be combined with a dram of the spirit of nitrous ether; but the suppression of urine which is liable to occur at the end of an attack of enteric fever or scarlatina is most rapidly brought to an end by a copious enema of hot water (100° F.), which the patient should be encouraged to retain as long as possible."—Dr. Eustace Smith, via Med. Summary.

[The use of soda is too often overlooked. Soda mint, dissolved in a cupful of hot water, every half hour or hour, will cleanse a "sour" stomach and often end a vomiting attack, even if the first cup or so is promptly returned. So called "acid intoxications" of intestinal and post anesthetic origin are relieved by like means and the kidneys set to working.—Ed.]

REMOVAL OF SUPERFLUOUS HAIRS.

The essentials for obtaining good results in Pirie's operation are: (1) Connect the needle to the negative pole; (2) use a fine stiff wire as a

needle (the wire supplied with the finest hypodermic needle is a suitable one); and (3) insulate the wire so that only the last one-sixteenth of an inch supplies the current. The advantages of this method are two—(1) no scarring after the operation; and (2) a lower percentage of regrowth hairs.—Pirie in Lancet (London), June 19, 1909, via J. A. M. A.

QUINSY, TREATMENT OF.

"The right line of treatment in a quinsy is to open it as soon as it is diagnosed. It does not matter whether pus has already formed or not. If it has not, the condition may be described as one of peritonsillar cellulitis, and incision will give as much relief as opening an abscess. An anesthetic should never be given. To do so is to court disaster, because in many cases there is also some secondary edema of the aryteno-epiglottidean folds, and inspiration may become seriously embarrassed. All that is necessary is to cocaineize the pharynx thoroughly with a spray some minutes before the operation is to be performed.

It is best to place the patient on a chair and to sit upon a second one directly facing him. The mouth is then opened to the widest possible extent, and the patient's tongue is depressed with a spatula which is held in the surgeon's left hand. In his right he takes a scalpel, the blade of which is wrapped round with strapping up to a quarter of an inch from its point. This is done merely as a guide to enable one to know how deeply the knife has been inserted. The point of the scalpel is then pushed through the anterior pillar of the fauces, the cutting edge turned inward and an incision made in a direction upward and inward, parallel to the fibers of the muscles which form the soft palate. In most cases immediate relief is given by this maneuver. It need hardly be said that a brisk purge should also be administered. The drugs that appear to do the most good are quinine and sodium salicylate. These may be conveniently combined by giving 2 grs. of quinine salicylate every four hours until the inflammation subsides."—Merck's Archives, June, 1909, p. 180.

[Rhubarb is a valuable cathartic and alterative in this condition. A gargle of Tr. ferri chlor. 1 part, glycerine 3 parts, one dram of which is used in one-half glass of water, is often of value in the after care. In fact, Tr. ferri chloride, gtts. x to xx, every three to four hours, well diluted, taken internally, often hastens the recovery.—Ed.]

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

The annual meeting of the Chautauqua Outing Club was held July 8, at Chautauqua, Ohio. The program was as follows: Morning—"Operations in Handicapped Cases," G. W. Crile, M. D., Cleveland. Dinner, 12:30 p. m. Afternoon—"Pleasures of a Doctor's Life," W. H. Snyder, president O. S. M. A., Toledo; "Florence Nightingale and Her Followers," E. S. McKee, Cincinnati; "The Children's Hour," C. L. Patterson, Dayton; "Medicine in the Moonlight," Dan Millikin, Hamilton.

The Highland County Medical Society met in the G. A. R. Hall, Greenfield, Ohio, Wednesday, July 7. Program: "Gall Stones, with Report of Cases," R. J. Jones, Greenfield; Case Reports, Wilson and others; "General Peritonitis as a Complication of Appendicitis with Report of Cases," J. N. Ellison, Sardinia; "Death—Natural and Pathological," A. G. Kreidler, Editor Lancet-Clinic, Cincinnati.

FOURTH DISTRICT

L. A. Levison, M. D., Collaborator.

A joint meeting of the Henry, Defiance, Fulton and Lucas County Medical Societies was held at Napoleon June 24. The program was as follows: James A. Duncan, of Toledo, gave an address on "Medical Education"; W. J. Stone, of Toledo, "Opsonins and Vaccine Treatment." A. E. H. Maerker, of Napoleon, reported several cases. L. F. Smead, of Toledo, "Early Diagnosis of Cancer of Breast." E. A. Murbach, of Toledo, "The Surgical Treatment of Fractures of Humerus." L. A. Levison, of Toledo, "The Treatment of Diabetes Mellitus." C. N. Smith, of Toledo, "Pancreatitis." G. B. Booth, of Toledo, "The Prevention of Blindness." R. P. Daniells, of Toledo, "Tuberculosis." A banquet was served at the Hotel Wellington.

The Ottawa County Medical Society met at Oak Harbor July 1. Fred Heller read a paper on "Pleural Effusion of the Different Types." He spoke of the many different causes of effusions—the diagnosis, manner of removal, etc. The paper was freely discussed.

A joint meeting and outing of the Academy of Medicine of Cleveland and the Academy of Medicine of Toledo was held at Cedar Point, Ohio, July 15, 1909. The program was as follows: Address, W. H. Snyder, President Ohio State

Medical Association; Address, Hon. Judson A. Harmon, Governor of Ohio; "Infection of Bones and Joints from the General Practitioner's and General Surgeon's Standpoint," John B. Murphy, M. D., Chicago, Ill.

The Williams County Medical Society held its fourth bi-monthly meeting for 1909, Thursday afternoon, July 8, in the Probate office, Bryan, Ohio. The program was as follows: Paper, "Arteriosclerosis," F. H. Pugh; discussion, M. V. Replogle, J. U. Riggs, G. W. Smeltz. "The Surgery of Peritonitis," Geo. M. Todd, Toledo. General discussion.

FIFTH DISTRICT

FRED W. HITCHINGS, M. D., Collaborator.

The regular meeting of the Huron County Medical Society was held July 8, 1909, at Norwalk, Ohio, at 10:00 a. m. The program was as follows: "Minor Surgical Gynaecology," E. W. Crecelius; "Therapeutic Measures Other than Drugs," Dora Horn.

The Ashtabula County Medical Society held its forty-fourth regular meeting Tuesday evening July 6. The paper of the evening treated on "The Management of Occiput Posterior Positions," by F. S. Clark, Cleveland. Report of clinical cases and general discussion followed.

The Erie County Medical Society met at the Court House, Wednesday, July 28. The program was as follows: "Malarial Poisoning, Etiology, Diagnosis and Treatment," S. Gorsuch; "The Chill: Its Significance from a Medical and Surgical Standpoint," P. F. Southwick; "Insanity in this State—Affecting Responsibility for Crime—Affecting Civil Rights," W. E. Guerin.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Monroe County Medical Society met in the court house at Woodsfield, Ohio, July 12. The meeting was called to order by J. W. Norris, president. G. W. Geyer, of Zanesville, read an interesting paper on "Adenoids and Tonsils," and H. T. Sutton, of Zanesville, read a paper on "Cancer of the Pelvic Organs." The two papers were discussed by various members of the society and the society adjourned to meet August 19, 1909.

The regular meeting of the Tuscarawas County Medical Society was held in New Philadelphia,

Tuesday, July 6, 1909. The program was as follows: "Otitis Media," R. B. Smith, Columbus; "Diagnosis and Management of a Few of the Principal Abdominal Diseases," D. W. Shumaker. Paper discussed by B. C. Hendershot and J. M. Smith. Clinical cases. Report of cases.

The Coshocton County Medical Society met at the Carnegie Library, Coshocton, on Thursday, June 24, at 1 p. m. The program was as follows: "Use and Abuse of the Obstetric Forceps," E. C. Carr; "Hay Fever," J. D. Lower; Report of Clinical cases by H. R. McCurdy and F. M. Marshall.

EIGHTH DISTRICT

CHAS. H. HIGGINS, M. D., Collaborator.

The Muskingum County Medical Society met in their rooms Wednesday evening, July 15. Paper by Dr. Sutton, "Early Diagnosis of Cancer in Pelvic Organs." Paper by H. R. Geyer, "Tonsillitis and Treatment."

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

The next annual meeting of the Tenth District Medical Association will be held at Delaware, Thursday, October 7.

NEWS NOTES

Announcement is made of the marriage in Baltimore of Miss Kathryn McDonough and Dr. H. O. Bratton. Mrs. Bratton is a daughter of Mr. and Mrs. M. McDonough, of 1360 Hunter street, Columbus. Dr. Bratton is a graduate of Ohio Medical University, class of 1906.

Sylvester J. Goodman, M. D., 238 East State street, Columbus, Ohio. Practice limited to surgery. Long distance phones: Bell 5668 Main; Citizens 2809.

Hugh A. Baldwin, Columbus, returned from Europe June 13.

Julius C. Stammel has been appointed resident physician of the Boys' Industrial Home, Lancaster.

Henry C. Schoepfle has been reappointed health officer of Sandusky.

John M. Withrow, Miriam Shaar and Christian R. Holmes, of Cincinnati, have gone abroad for the summer.

Sidney Lange has been appointed radio-grapher on the staff of the Cincinnati hospital.

More than enough money was contributed to meet the needs of the committee in charge of the fund to pay for the home of the widow and children of the late Major Carroll. The total was \$8,237.31.

Hugh G. Campbell, Logan, is convalescing after a serious illness.

A Ravogli, Cincinnati, was elected president of the National Confederation of State Medical Examining and Licensing Boards at a meeting held in Atlantic City, June 7. St. Louis was selected as the meeting place for 1910.

The Joseph Eichberg fund for the establishment of a memorial chair of physiology in the medical department of the University of Cincinnati, now amounts to \$45,000.

The eleventh annual conference of the American Hospital Association will be held in Washington, September 21-24.

July 21 was set aside as "Medical Day" at the Alaska-Yukon-Pacific Exposition.

The total registration at the Atlantic City meeting was over 3,200. At Chicago, in 1908, the registration was over 6,400, the largest in the history of the Association. In 1907, over 3,700 registered at Atlantic City, and in 1906 there were over 4,700 registrations in Boston.

The following counties have paid the special assessment:

Franklin county	\$126 50
Athens county	21 00
Crawford county	8 00
Darke county	12 50
Henry county	8 00
Hamilton county	207 50
Miami county	22 50
Tuscarawas county	21 50
Vinton county	4 50
Wood county	14 50

In recognition of the growing importance of the subject of the public health and preventive medicine, Harvard University has announced the establishment of a department in its medical school exclusively devoted to those subjects and the election of Milton J. Rosenau, of Washington, D. C., as professor of hygiene and preventive

medicine, and head of the new department. Dr. Rosenau will begin his service at Harvard with the opening of the new college year.

The Northern Tri-State Medical Association held its thirty-sixth annual meeting Tuesday, July 13, at Toledo Ohio. The program was as follows:

Forenoon Session—"Surgical Clinic," from 9 to 9:30 a. m. at the Robinwood hospital, Wm. J. Gillette, Toledo. "To What Extent Does Thought Influence Diseases of the Mind and Body," Lewis Miller, Toledo. Leaders in discussion—Drs. C. D. Camp, Ann Arbor, Mich.; W. F. Shumaker, Butler Ind., and J. A. Weitz, Montpelier, Ohio. "Chronic Intestinal Intoxication," Hugh M. Miller, South Bend, Ind. Leaders in discussion—Drs. O. Hasencamp, Toledo; A. E. Yoder, Goshen, Ind., and C. H. McCain, Vicksburg, Mich. "The Role the Neisserian Coccus Plays in Man, Concerning Childless Marriages," Charles E. Barnett, Ft. Wayne, Ind. Leaders in discussion—Drs. I. Dean Loree, Ann Arbor Mich.; H. E. Noble, Toledo, and C. E. Rosenberry, South Bend, Ind.

Afternoon Session—"The Interpretation of Symptomatic Jaundice," C. N. Smith, Toledo. Leaders in discussion—Drs. G. W. McCaskey, Ft. Wayne, Ind.; C. G. Jennings, Detroit, Mich., and C. B. G. DeNancrede, Ann Arbor, Mich. "A Case of Appendicitis of Twenty Years Standing," J. H. Carstens, Detroit, Mich. Leaders in discussion—Drs. J. H. Jacobson, Toledo; Miles F. Porter, Ft. Wayne, Ind., and C. A. Daugherty, South Bend, Ind. "Typhobacillosis," J. H. J. Upham, Columbus. Leaders in discussion—Drs. A. P. Olmacher, Detroit, Mich.; B. W. Rhamy, Ft. Wayne, Ind., and J. A. Work, Jr., Elkhart, Ind. "Anaesthesia in Lymphatism," K. K. Wheelock, Ft. Wayne, Ind. Leaders in discussion—Drs. E. C. Bernstein, Kalamazoo, Mich.; Budd Van Schweringen, Vt. Wayne, Ind., and W. J. Stone, Toledo. "Edward Alanson—a Forgotten Pioneer Who Established Correct Methods of Wound Treatment," C. B. G. DeNancrede, Ann Arbor, Mich. Leaders in discussion—Drs. H. D. Wood, Angola, Ind.; E. L. Shurley, Detroit, Mich.; Frank Smithies, Ann Arbor, Mich., and J. B. Porter, Elkhart, Ind. "Why Avoid Drainage, Pus and Plastic," Joseph Price, Philadelphia, Pa.

DEATHS

S. B. Tomlinson, Medical College of Ohio, 1855, the first secretary of the Cincinnati Academy of Medicine, died at his home in Cincinnati, June 25, from infirmities incident to old age, aged 81.

A. H. Iler, Medical College of Ohio, 1861, died at his home in Blue Ball, O., June 23, at the advanced age of 88.

Thomas Cosgrove, Detroit Medical College, 1871, died at his home in Toledo, June 11, from nephritis, aged 75.

H. N. Curtis, New York Homeopathic Medical College, 1881, died suddenly at the Marietta Country Club, June 7, from apoplexy, aged 56.

J. E. Starner, Cincinnati Electric Institute, 1885, died at his home in Dunkirk, June 1, from tuberculosis, aged 52.

Lovina A. Thrope, Cleveland Homeopathic Medical College, 1883, died at her home in Cleveland, April 23.

R. C. Stocton Reed died at his home, Stocton, Ohio, a suburb of Cincinnati, July 9, 1909. He was born at Franklin, Ohio, February 2, 1825. He studied in the Starling Medical College of Columbus, Ohio, and the Cincinnati College of Medicine and Surgery, graduating at the last named institution in 1860. He was for twenty years professor in his alma mater and was the one man who for so long was the moving spirit of that institution. He leaves three sons, all doctors. They are C. A. L., John G., and Wm. S. One daughter survives him, Mrs. D. W. Field, of Los Angeles.

MARRIAGES

Howard H. Bean, East Liverpool, to Miss Jessie Jessup, of Marion, July 6.

Theodore Bangs, Cincinnati, to Miss Bess Carnahan, of Blanchester, June 9.

Hugh McDowell Beebe, Sidney, to Miss Ruth Pearson, of Troy, recently.

George E. Malsbary, Cincinnati, to Miss Norma Helwig, of Clifton, June 13.

Lynn M. Jones to Miss George Rosamond, both of Dayton, June 30.

Charles W. Evans, Springfield, to Miss Nellie Wiley, of New Park, Pa., June 17.

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No. 9

ORIGINAL ARTICLES

FURTHER OBSERVATIONS ON BISMUTH AND OTHER PASTE TREATMENTS IN SUPPURATIVE DISEASES OF THE NOSE AND EAR.

JOSEPH C. BECK, M. D.,
Chicago, Illinois.

[Read before the Ohio State Medical Association.]

Mr. Chairman and Gentlemen: The hour is very late, and the excellent address of Dr. Allport has presented a very important subject in such an excellent manner that I feel as though I ought to sidestep the proposition of going into any lengthy talk, and therefore I have concluded, while listening to his interesting paper, to confine my remarks to the very essential points that you may perhaps be interested in.

In the first place, I want to say that I have been guided in using the bismuth paste in the treatment of suppurative diseases of nose, ear and throat by the results that the general surgeons have obtained in suppurative diseases of other cavities of the body, as suppurative diseases of the joints, etc. With such splendid results in the hands of surgeons in this country and abroad, have chronic suppurative diseases been treated, that I have thought the cavities of the head which were subject to suppurative disease, must be no exception to this treatment. I therefore began experimenting about the time I saw the results from the use of this treatment in other parts of the body. My experiments date about two and one-half years back, and I must confess that at the beginning my results were disappointing. In fact, only a small part of the cases got well simply by this treatment, but in addition to surgery the treatment of bismuth paste as a dressing or local application aided healing materially. I want to make it clear that bismuth paste is used only in chronic suppurative diseases. I have used it as a dressing after acute mastoid with drainage, as I will show

later, but have not advocated it as a general mode of treatment.

I will speak of each point as the slides are thrown on the screen, which I think will be better than to speak at greater length on the subject at this time.

I want to say that I think the reason we have not the same success with this treatment as the general surgeons have in cavities they treat is, first, because we have non-collapsible cavities; second, they are cavities lined with mucous membrane. Again, in the chronic suppurative otitis media possibly we do not get the paste far enough back into the antrum, and, further, I have experimented on a cadaver and have found that even under extreme pressure the paste does not get further than just at the beginning of the antrum. I believe this is due to the fact that the opening is so small the existing air in these non-distensible cells cannot escape, and so prevents the paste from entering the remote portions of the mastoid process.

(Twenty-six stereopticon slides were shown to demonstrate the following points:)

I. Pathological conditions of the nose, throat and ear in which the bismuth paste was employed, *four slides* bringing out the vital points, especially showing that the majority of the nasal accessory sinus diseases required some form of operative procedure before they were injected.

SLIDE I. INTRA-NASAL SERIES.

1. Chronic suppuration of the accessory sinuses of the nose.
2. Atrophic rhinitis.
3. Luetic ozena.
4. Post-operative suppuration and its prevention.
5. Post-operative hemorrhage and its prevention.
6. Ulceration of nasal septum.
7. Spontaneous nasal bleeding.

SLIDE II. EAR SERIES.

1. Otitis externa chronica (eczematosa).
2. Otitis media chronica purulenta.



- 3. Filling bony defect in simple mastoid operation with immediate suture of wound.
- 4. Post-operative dressing in semi-radical or Heath operation.
- 5. Post-operative dressing in radical mastoid operation.
- 6. Retro-auricular fistulae.

SLIDE III. THROAT SERIES.

- 1. Chronic lacunar tonsillitis.
- 2. Peritonsillar abscess after incision or spontaneous rupture.
- 3. Retropharyngeal abscess after incision or spontaneous rupture.
- 4. Meckel's diverticulum for diagnosis.

SLIDE IV. MISCELLANEOUS SERIES.

- 1. Fistulae about the external nose and ear.
- 2. Fistulae from superior and inferior maxilla.
- 3. Post-operative in dentigerous cysts.
- 4. Fistulae of the neck.

II. The formulae that have been employed—one slide showing four formulae. For the past six months formula No. 1 is practically the only one employed, having found that it is easier of application, and the results were better. Only as the mastoid dressing after radical operation is No. 2 used at the present time. No. 3 and 4 in place of Moorhoff plug.

FORMULAE FOR PASTES.

PASTE I.

Bismuth Subnitrate	33
Vaselin	67

PASTE II.

Bismuth Subnitrate	30
Vaselin	60
White Wax	5
Paraffin, melt 120°	5

PASTE III.

Bismuth Subnitrate	30
Vaselin	50
Paraffin	10
White Wax	10

PASTE IV.

Bismuth Subnitrate	30
Vaselin	35
Paraffin	25
White Wax	10

III. The instrumentarium, one slide, and are the ones that were shown in the original article in the journal of the American Medical Association, January 9, 1909. (Supplementary note and illustration at end of this article.)

IV. Five positions (five slides) showing the patient for injection of the (a) general nasal cavity; (b) antrum of Highmore; (c) frontal sinus; (d) sphenoidal sinus; (e) the ear.

V. About fifteen slides showing the antero-posterior and lateral radiograms of injected antra

of Highmore; frontal sinuses, sphenoidal sinuses, general nasal cavity, including the ethmoidal region, the external and middle ears, and the mastoid process after acute infection and excen-teration to fill up the defect. These slides showed positive proof of the cavities being injected.

VI. Radiogram (one slide) of injected tonsil crypts before removal of the organ, showing the complete penetration by the paste as far as the capsule, and serial section of the same tonsil and rayed (one slide) showed how several of the crypts were injected by simply injecting through one crypt (the largest upper one). It would appear that these crypts communicated, a fact not demonstrable histologically by the usual method. It is possible that this may only be an artefact, while injecting the paste.

VII. Several slides were shown of injected chest cavities for the cure of empyemata. This to demonstrate the absorption of the bismuth paste. One series of three showed where the patient received an injection of 600 grams of paste No. 1, and it became absorbed in a little over two months' time, with a cure of the empyema. These cases were out of the practice of Dr. Emil Beck, the author of bismuth paste method of treatment.

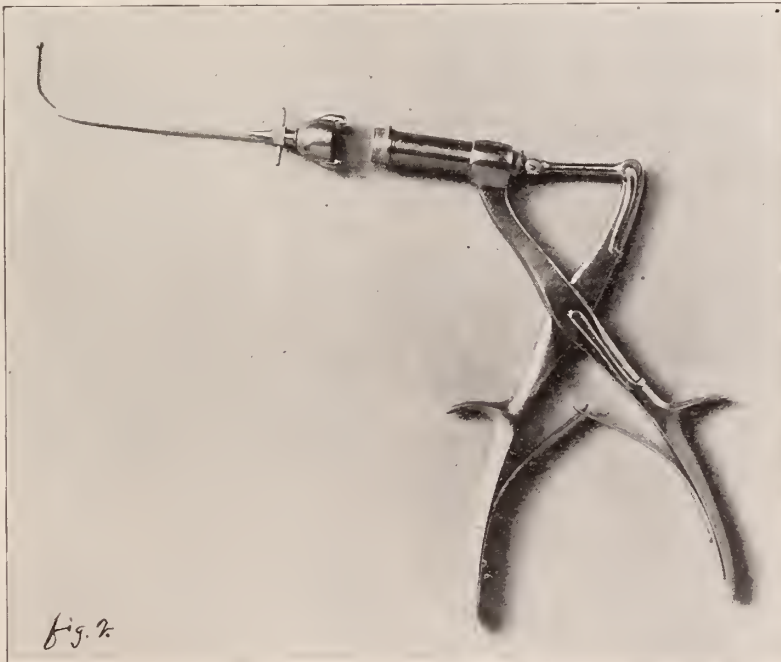
VIII. Several colored slides (Lumier's process of colored photography) were shown of the appearance of patients' mouths and gum margins in

case of bismuth subnitrate poisoning. There were distinct black spots on the mucous membrane of the cheek and a black line about the gums.

IX. A slide showing a tubercular knee injected with bismuth paste, in order to demonstrate how small an opening and channel the paste will flow through, and finally reach a cavity. This is a fact of great importance in the treatment of nasal accessory sinuses and ears. Another fact was brought out that no matter how small the opening, the paste would find its way back again along the syringe point rather than make a false passage, even if considerable pressure were used.

X. Several slides were shown of the experimental work done to test the absorption of the bismuth into the organs and fluids of the body. It was shown in the liver, muscles and urine a short time after injecting it subcutaneously in animals. When, however, mucous membrane lined cavities were injected, it was found that absorption was very slight or not at all, another fact of importance, since toxic cases would not occur from its use in our line of work.

XI. Two slides were shown of micro-organisms (tubercle bacilli) after the infected cavity was treated by bismuth paste for a short time. These were granular and showed evidence of destruction. Many experiments have been made on in-



fectured cavities with various micro-organisms after these were injected with the paste, and it was found that the material withdrawn gave negative results on culture media. It is therefore concluded that when the paste comes in contact with an infected surface of a cavity or channel, it there causes a leucocytosis, which in turn destroys the micro-organisms—a chemotactic action. That this actually takes place will have to be demonstrated more fully and scientifically, but it is not within the province of these remarks this evening, and all that can be said tonight is that extensive experiments are being carried out in Beck's Laboratory to clear up these important points, and will be reported in detail by Dr. Carl Beck in due time. *

XII. A slide showing nineteen different medicinal substances in paste form in different percentages, discussed briefly as to the experiments that were now being carried out clinically. These were employed with the same technic as the bismuth paste in chronic suppurative conditions of the nose, throat and ears. Not enough cases have as yet been treated or time enough has not elapsed since the experiments to warrant any definite conclusions. Suffice it to say at this time that there have not been observed any startling results from any of the pastes; that is, of that degree that would cause one to substitute it for the bismuth paste.

Another very interesting observation that was made in connection with the bismuth paste treatment is the adjunct application of vaccine therapy. It has been found in a few cases that did not do so well by the use of the bismuth paste that they improved more rapidly when the auto-vaccines were employed in conjunction with the paste. Of course, these were cases that had the vaccine treatment previous to bismuth paste treatment.

In conclusion, the author desires to thank Parke, Davis and Company's Detroit Laboratory, which has kindly furnished some of the pastes for experimental purposes.

PASTES EMPLOYED FOR EXPERIMENTAL PURPOSES.

1. Ichthyol in vaselin, 10 per cent., 20 per cent., 33 per cent.
2. Nargol in vaselin, 10 per cent., 25 per cent.
3. Benzoin in vaselin, 5 per cent., 10 per cent., 25 per cent.
4. Iodine in vaselin, 5 per cent., 10 per cent.
5. Crede's ointment in vaselin, 33 per cent.
6. Balsam of Peru in vaselin, 10 per cent., 20 per cent.
7. Formidine in vaselin, 10 per cent., 33 per cent.

8. (a) Pyoktannin in vaselin, blue, 10 per cent., 20 per cent.

8. (b) Pyoktannin in vaselin, yellow, 10 per cent., 20 per cent.

9. Magnesia in vaselin, 10 per cent.

10. Zinc sulphate in vaselin, 10 per cent., 20 per cent., 33 per cent.

11. Calcium salt in vaselin, 10 per cent.

12. Natrium chloride in vaselin, 10 per cent., 20 per cent., 33 per cent.

13. Bismuth subcarbonate in vaselin, 33 per cent.

14. Bismuth subiodide in vaselin, 10 per cent., 33 per cent.

15. Bismuth subgallate in vaselin, 10 per cent.

16. Trypsin in vaselin, 5 per cent., 10 per cent.

17. Thvriodine in vaselin, 5 per cent., 10 per cent.

18. Bacilli acidi lactici in vaselin, 10 per cent., 20 per cent. (Ledvile.)

19. Pyocyanase in vaselin, 5 per cent., 10 per cent.

SUPPLEMENTARY NOTE.

Since this subject was presented by Dr. Beck a new springe has been devised which so simplifies the technique that he desires to add it to the report in the following cuts.

Fig. 1. (a) The syringe itself with a blunt end for injection into the ext. audit canal, middle ear and ext. nares.

(b) Flexible silver sinus canula for injection of the sphenoid antrum, frontal sinuses and ethmoid region.

(c) Fine silver canula, flexible for injecting small sinuses and fistula without exerting great pressure.

(d) Larger canula for injecting fistulae without pressure.

Fig. 2. Syringe taken apart at the lock joint, with sinus canula attached. The latter is frequently passed into the sinus first and then the syringe is attached subsequently.

A paper is now in preparation on this subject, especially on the improved and detail technique with stereoscopic illustration, and will be published in the annals of Otology, Rhinology and Laryngology.

Avoid touching the cornea during the administration of an anesthetic. The ocular reflex can be obtained just as well through the lid, and the pupils and motions of the globe offer the most definite indications of the degree of narcosis.

—Surgical Suggestions.

If pus persists in the urine after extirpation of a kidney for a suppurative disease, it often means that the ureter is involved, and will require a subsequent operation.

—Surgical Suggestions.

SOME ASPECTS OF ANGINA PECTORIS.
(REPORT OF CASES.)

FRANK WINDERS, M. D.,

Professor of Medicine and Clinical Medicine,
Starling-Ohio Medical College.
Columbus.

[Read before the Ohio State Medical Association.]

A study of this subject may well be prefaced by the statement that angina pectoris is not a distinct disease, but rather a symptom group the etiology and pathology of which must be determined for each individual case.

The term occupies the same position as does dropsy or jaundice, it defines a group of symptoms which may arise from various pathological conditions.

The question whether true angina pectoris occurs without definite anatomical lesions of the heart or its vessels no longer seems in dispute, that such cases exist is generally accepted.

A classification recently suggested by Russell, of Edinburgh, seems logical. This author distinguishes angina pectoris major, cases in which there are definite anatomical changes in the heart or its vessels from angina pectoris minor, cases in which no such changes can be demonstrated.

The classification might be open to the objection that the term "minor" may seem to minimize the importance of the condition from a prognostic standpoint. This view should not be taken since so-called "minor" cases are not infrequently equally as grave in their prognosis as the major cases.

The major types will be considered but briefly, it being the purpose of this paper to consider more in detail certain phases of the minor types.

Cases which at autopsy show lesions of the heart or its vessels, present either: (a) Disease at the first portion of the aorta or at the aortic valve which causes interference with the entrance of blood into the coronary arteries, or (b) disease of the coronary arteries which may be a part of a general arterial disease or may be limited to these arteries or some part of them.

The isolated disease of the coronaries is probably of the same kind as the isolated disease found in the renal and cerebral vessels. Anginous attacks resulting from isolated disease of the coronaries may be explained in exactly the same manner as the transient hemiplegias, aphasias, attacks of mental confusion and isolated motor paralysis, not infrequently observed in the arteriosclerotic subject. They are the result of a tem-

porary deficiency of blood to the parts supplied by the diseased vessels.

The association of attacks of angina and disturbances of digestion has long been recognized, but it remained for Russell in his recent work on "Arterial Hypertonus, Sclerosis and Blood Pressure," to give a plausible explanation of this relation. The author directs attention to the normal arterial abdominal reflex, and its exaggeration as an important factor among the causes of angina pectoris.

During the process of digestion there occurs an increased flow of blood to the entire splanchnic area. This increased flow to these parts is sufficient to considerably reduce the volume of blood in other parts of the arterial system. The decrease of blood volume in the general arterial system is balanced by a general arterial contraction which takes place through the influence of the vaso-motor centers. The degree of arterial contraction is dependent upon the character and amount of food ingested. A heavy meal of meats and wines will result in sufficient arterial contraction to produce a considerable rise in blood pressure and such contraction is exaggerated by the ingestion of large quantities of stimulating foods and drinks.

An additional factor which has to do with the increase of blood pressure following the ingestion of heavy foods and stimulating drinks is the presence in the blood itself of products of digestion which act as irritants to the arterial coats and thereby excite them to contraction.

A continuation of these influences results in a continued arterial contraction and this in turn in a compensatory thickening of the arterial walls, an arterio sclerosis.

The researches of Pal have demonstrated that such hypertrophied or arteriosclerotic vessels do not lose their power of contraction in response to impulses from the vaso-motor centers, but on the contrary, are more than normally sensitive to such impulses and are readily thrown into what Russell designates as hypertonic contraction.

Three factors are therefore concerned in the production of increased blood pressure during digestion, especially in individuals who overeat and drink to excess. First, the exaggeration of the arterial abdominal reflex; second, the presence of irritative or toxic products of digestion in the blood current, and third, hypertonic contraction of sclerosed vessels.

The mechanism of cardiac embarrassment resulting from the foregoing causes is apparent.

A general arterial hypertonus produces a narrowing of the lumen of the vessels which in turn causes an increase in blood pressure. The

smaller branches of this system of tubes being narrowed in their lumen, greater force will be required to send the same bulk of fluid through them in a given time. The pressure in the larger vessels being increased it follows that an increased burden is placed upon the heart in its efforts to empty its left ventricle. In spite of nature's provision for a thickening of cardiac walls and for a slowing of the heart action to overcome the increased pressure against which the heart is working, sooner or later if the pressure continues the overburdened heart gives way under the strain, the overstrained myocardium reaches its point of tolerance.

Angina pectoris is, in most, if not all, cases, associated with an impairment of the blood supply to the heart, an ischemia of the heart muscle.

The conditions already mentioned as resulting from overindulgence in food and drink, operating to produce an embarrassment of the heart may explain at least some of those cases of angina pectoris in which lesions of the heart or coronary arteries are not found.

The failing heart is unable to furnish sufficient blood for its own nourishment and any increased demand will increase the ischemia of the heart muscle, or in other instances, a general arterial spasm occurs in which the coronaries take part.

It is important to recognize the fact that apparently mild forms of angina exist and that true angina occurs without evidence of disease of the heart or its vessels. By no means do all cases of angina pectoris display the signs of great distress, the agonizing pain in the breast and arm, the sense of vice-like constriction of the heart, the pallid face or profuse sweating which make up the usually described picture. There are many grades and degrees of anginous attacks from the mildest, frequently unrecognized type, consisting of an uneasiness in the cardiac region, a feeling of impending danger and slight dyspnoea, to that form in which death concludes the first attack.

In this connection it may be well to say that the term "pseudo-angina" applied to cases in which no diseased condition of the cardio vascular system is discoverable is unfortunate and somewhat misleading. It tends to give the impression that the condition is not of serious import and is especially prone to be confused with hysterical angina a widely different condition. It is much safer to assume that each case is a true angina unless it can be positively identified as of hysterical origin.

Especially important is the recognition of the various types of angina pectoris from a therapeutic standpoint. Cases associated with high

blood pressure during the attack are ordinarily promptly relieved by the immediate administration of the vaso-dilators—nitrite of amyl by inhalation or nitroglycerin by hypodermic injection and attacks may be prevented by giving nitroglycerin or nitrite of sodium as a prophylactic.

When angina pectoris is associated with myocarditis, when an increase of blood pressure does not occur during the attack, the administration of the vaso-dilators is more than useless, in fact, may be disastrous. Here we are dealing with a heart which is weak in itself and is not overwhelmed by efforts to overcome increased peripheral resistance, and instead of an increase there is probably a diminution in blood pressure. To administer remedies the action of which is to produce a lowering of blood pressure can certainly not be productive of good results, and it is readily seen may do much harm. In these cases the hypodermic of morphine to relieve pain and counteract shock is indicated. In the latter cases it is well to remember that if arterio sclerosis be present, the blood pressure reading may be high, this being due to the thickened unresisting vessel wall and not to a real increase in intra vascular pressure. This source of error should be considered in deciding whether to use morphine or one of the vaso-dilators.

In the following case reports I shall only call attention to the most important points in each case as bearing upon the type of angina to which the case seems to belong.

Case 1.—Male, age thirty-one. Retail merchant. Family and personal history negative. Eight months before I was consulted had first attack of pain in the heart and left arm.

This attack came on suddenly after violent exercise. Second attack two months later. Attacks gradually became more frequent until at this time was having one to three every day. Attacks always followed overeating or exercise except in three instances when they followed excitement.

Physical examination was negative; no evidence of disease of heart or vessels was detected.

On the occasion of the patient's second visit to my office I was fortunate in witnessing an attack. This was a typical apparently mild angina and during the attack I was able to take the blood pressure which registered 185. (During the intervals blood pressure was 135.)

Patient was put upon a light diet and advised to take absolute rest. The family physician reported from time to time that while patient followed advise as to rest and diet no attacks occurred, but each time he would return to busi-

ness and to a heavier diet attacks would reappear.

After a period of rest and diet covering three weeks, during which he had no attacks, he climbed to the third story of a new building which he wished to inspect, was immediately seized with a severe attack which his physician relieved by giving nitroglycerin. He was taken home and apparently recovered from the attack but a few hours later, contrary to his physician's order, he climbed the stairs at his home, was immediately seized with an attack and died in a few minutes.

This seems to have been an attack of what Nothnägel described as Angina Pectoris Vaso-motoria as evidenced by absence of changes in heart or vessels, the high blood pressure during attack and the relief obtained from vaso-dilators.

Case 2.—Male, aged sixty-two. Wholesale merchant. Family history negative. Very heavy eater. Had been having attacks of pain in cardiac region at irregular intervals for two years. These usually followed overeating or some hurry or excitement.

During intervals there were frequent attacks of dyspnoea and cardiac palpitation. His condition had been previously diagnosed as indigestion and neuralgia of the stomach.

Patient is five feet nine inches; weighs 212 pounds. Area of cardiac dullness increased; no murmurs; no evident accentuation of aortic second sound; heart sounds are weak.

Pulse 90; after slight exercise 110 to 120; somewhat irregular. Blood pressure 130.

No marked arterio-sclerotic changes.

Blood pressure was not taken during attack, but judging from therapeutic measures found to relieve his attacks I concluded that there was no great rise. It was found that the vaso-dilators instead of relieving his attack seemed to aggravate and that morphine hypodermically gave prompt relief.

This patient improved after rest and regulation of diet, but died suddenly after eating a heavy meal and hurrying to catch a train. This was, I believe, a case of myocarditis in which the anginous attacks were manifestations of an overburdened and under-nourished heart muscle.

Case 3.—Male, aged forty-nine. Physician. Anginous attacks for past two years; has had seven attacks during that period; always followed violent exercise or overeating.

Patient well proportioned, well nourished; there is slight cardiac hypertrophy; some accentuation of aortic second sound; no murmurs.

Pulse 78, regular; blood pressure 165. Vessels show arterio sclerotic changes.

Urine, trace of albumin, occasional granular cast.

Attacks promptly relieved by inhalation of amyl nitrite or nitroglycerin by hypodermic.

Following regulation of diet, avoidance of violent exercise, the administration of potass-iodide, small doses, and sodium nitrite the patient has been free from attacks for past five months. Probably a case of hypertonic contraction in which the coronary arteries took part.

Case 4.—Male, aged sixty. Bookkeeper.

Has had a well marked aortic insufficiency for number of years. Very marked hypertrophy and all the classical signs of damaged aortic valve. Well marked arterio-sclerosis.

Pulse 66; occasional intermittency. Blood pressure systolic 168 (due to hard vessel wall).

In February, 1908, had a very severe attack of agonizing pain in breast and left arm, accompanied by dyspnoea; profuse sweating. Pain and shock so severe that patient was confined to bed for five days; was relieved by hypodermic injections which he thinks were morphine.

In December, 1908, I was called. Found patient deathly pale; sweating profusely; pain so agonizing that he could scarcely speak; dyspnoea marked.

Pulse 116, intermittent. There was an apparent high blood pressure due, I believe, to the hard vessel wall rather than a real increase in intra vascular pressure. The heart showed signs of acute dilatation. Relief was obtained by hypodermic of morphine, but absolute rest and careful use of digitalis were required for a number of days before compensation was restored.

This was, I believe, a sudden loss of compensation, the disease at the aortic orifice interfering with the proper flow of blood into the coronary arteries. It seems probable that while compensation was present this interference was not sufficient to cause an ischemia of the heart muscle, but that the failing heart was unable to overcome the interference and a defective blood supply to the heart muscle resulted.

Case 5.—Male, fifty-two years. Retail merchant.

History of anginous attacks for past three years; attacks always of short duration and not of the severe type. Follow heavy meals or violent exercise. Cardiac hypertrophy, accentuation of aortic second sound; slight arterio-sclerotic changes. Attacks are promptly relieved by nitroglycerin. Probably an example hypertonic contraction since the patient is free from attacks if he adheres to a proper diet and refrains from violent exercise. An interesting fact in connection with the case is that the patient has learned

the value of nitroglycerin in relieving the attacks and now uses the remedy as a prophylactic measure with apparent success. If he needs to hurry, to climb a flight of stairs or take other unusual exercise, he takes a tablet of nitroglycerin and believes that he wards off the attack.

DISCUSSION.

John E. Greiwe, Cincinnati: Mr. Chairman and Gentlemen.—I would like to add to Dr. Winders' paper a few stereoscopic views which will illustrate some of the troubles of which he has spoken, viz.: the difficulties arising from the conditions about the aortic valves and in arteriosclerosis of the beginning of the aorta. These are conditions that we can very easily demonstrate as the result of post-mortem work.

I would say, however, that in my judgment we have not only these conditions of the heart itself, but we must take into consideration those forms of trouble which are sometimes rather difficult to diagnose; namely, milder cases of myocarditis. I believe that as we go on with our knowledge of pathological anatomy and our knowledge of pathology in general, we will come to the conclusion that we have very little functional disease. So far as I am concerned I believe that many of the cases of so-called functional angina; that is, of the minor type, which are supposed to be the result of spasm of the vessels, really do show some changes of the myocardium as the result of some infection very early in life, probably of a mild type. I believe that Dr. Winders gave the keynote of the situation in the statement that the immediate cause of the angina is an exhausted condition of the heart muscle. Whether that be produced by some interference with the flow through the coronary artery or whether it be from a damaged heart, there occurs something that makes it difficult for that heart to do increased work. I believe that the important function of the contractility of the muscular tissue of the heart is the one which is particularly affected in angina pectoris.

I am going to show here a stereoscopic view of the heart that we were fortunate to obtain after sudden death due to the occlusion of the coronary artery. This specimen came from a child twelve years old. You will see that the edge of one aortic valve has been torn off, hanging as if it were a thread. A ball of fibrin had formed on the end of this filament and this proved to be the cause of death. This child was riding a bicycle and died very suddenly. At the autopsy the ball-like end of this filament was found sunk into the opening of the coronary artery. I show that to you in this stereoscopic view.

The next view shows a very marked sclerosis about the aortic valves, an illustration of the pathological condition that Dr. Winders has spoken of.

The next specimen shows a condition of the heart which frequently results in angina pectoris with aortic insufficiency accompanied by very marked destruction of the valves.

In connection with this subject of the peculiar pains and the clinical manifestations of angina, it is rather interesting to remember that the

newer work in neurology has thrown considerable light upon visceral manifestations. You must take into consideration the fibers that go from the heart to the spinal cord and back again to the muscular system; so-called visceral afferent fibers; and the interesting thing is now that physiologists have located to a certainty the center of those afferent fibers in Clarke's Column and that the motor fibers rise from the lateral portion of the gray matter of spinal cord. The heart, like a great many of the hollow organs, is insensitive to pain in the ordinary sense; so that reflexes arising from such organs are carried to the cord. Thus, as a result of the stimulation of the sensitive fibers, we have pain in the precordial area, and on the inner side of the upper arm, and the ulnar edge of the forearm. As a result of stimulation of the motor fibers we have a contraction of the intercostal muscles and possibly also of the diaphragm.

With reference to the treatment, perhaps Dr. Winders did not have time to dwell upon all these features strong enough. He has intimated as much in the treatment of the cases he has had; but I believe a great many people have a condition where there is really an exhausted condition of the heart muscles. It simply requires some little effort to bring about angina pectoris.

J. H. Lowman, Cleveland: The pathological side of this question has been brought out very well. I suppose there is no doubt but that is the explanation of the angina; but as the speakers were passing along in that line there were brought to my mind certain unusual clinical features of angina; that is, that there are cases of angina in which there is no pain, and cases in which there is an excess of gastric symptoms—stomach symptoms. The ordinary typical angina is not difficult to diagnose; but these unusual forms are often extremely difficult. There are cases of angina not attended by pain even to the very end, and they may have passed under the eyes of diagnosticians of great acumen without detection. A case comes to my mind now in which there was never any pain, but at the autopsy the coronary artery was found plugged. The man died suddenly. There was no question but that the condition of the heart was due to this coronary disease, yet during the course of that man's sickness—he was ill for three years—he never had had an attack of angina with pain in his arm, side, etc., pains which are extremely difficult to explain. I have never seen any satisfactory explanation of pain in the arm, or pain in the chest from angina. This particular individual had angina attacks almost invariably at night. On one occasion, after going into the surf overheated, he came out and was very pale, had an oppression in his chest, and felt as if he would die. He had all the objective symptoms of angina except pain. He lay down, and it passed off. That was the only attack he had ever had of difficulty of breathing or oppression during waking hours; but he would wake up in the night with the feeling of distension from gas, and he had a habit of taking some bicarbonate of soda or magnesia, or sometimes a little whisky, and then the feeling would pass away, and he would go to sleep, and perhaps in an hour or two would wake up again. The relation of his indigestion to these

particular attacks at night never could be made out by those who were in frequent contact with him. Nothing in relation to his past or present life could be demonstrated. These cases of angina without pain, angina sine dolore, but with gastric symptoms, occur very much oftener than we ordinarily know, it is to be inferred, since if one occurs there are likely to be others.

Another clinical form of angina is angina with an excessive formation of gas, which may throw the diagnostician off, where there is a mild degree of pain with an excessive amount of gas, where the attack will be relieved by taking bicarbonate of soda. These cases are extremely difficult to explain. Often by the administration of bicarbonate of soda or a little magnesia, the attack will pass away without the use of nitroglycerine, and permit the patient to lie down and go to sleep. I have in mind cases of that kind in which the family were very positive there must be a gastric condition. In order to convince them I called in another doctor, who also made the diagnosis of angina; but the man could not be relieved by nitro-glycerin. We gave nitro-glycerin through the various dilutions, without any particular effect; but a teaspoonful of aromatic spirits of ammonia, or a teaspoonful or two of milk of magnesia would take away his distress; he would gulp up an enormous amount of gas, and would lie down and go to sleep. The man died suddenly. An autopsy showed disease of the coronary artery. It was unquestionably angina pectoris that he had; but there was a large amount of reflex. It was impossible to work out the theory of the thing satisfactorily. Probably there might have been intestinal gastric reflex in both cases. Yet I have seen people who, it seemed to me, must have angina pectoris, but where the symptoms were almost exclusively an enormous amount of gas.

J. E. Tuckerman, Cleveland: There are two questions I would like to ask the doctor. One is, did I understand him to say that there was a vaso-motor control in the coronary arteries? My impression is that that had not been demonstrated. The second is, upon what clinical data does he base his treatment for an attack; whether he gives nitro-glycerin or morphia when seeing the patient for the first time in an attack, and not having apparatus at hand for determining absolutely the blood pressure?

Frank Winders (Closing), Columbus: Mr. Chairman, I have very little, if anything, to add to the discussion of the paper. I am very glad to hear the first speaker say that he thinks the occurrence of true functional heart disease is so rare. I believe this will be demonstrated more and more as we are able to study the pathology of heart conditions. I think that the question of the treatment of angina pectoris is so very important that it would require an entirely separate paper to deal with the subject. Therefore, I did not attempt to do so except by inference.

In regard to Dr. Tuckerman's questions, I should say in answer to the first, that there is a general arterial spasm in which the coronaries may take part, although it has not been demonstrated that they do so, and it would be difficult to prove conclusively that such is the case. I believe I stated that this was one of the theories mentioned.

As to the differentiation of the two types of cases, as to whether a vaso-dilator shall be used, or whether morphin shall be used, this is an exceedingly difficult thing to do upon seeing the case for the first time during an attack. In most cases I should say that it is practically impossible. Naturally you would not have instruments at hand for determining the blood pressure, and even if you should have in but very few cases, would you be able to take the blood pressure during the attack.

I might say in reference to the first case reported that this was a sort of coincidence. It happened that just as I was adjusting the blood pressure apparatus an attack came on; and thus I was able to take the blood pressure during the attack. This, of course, called my attention very closely to this particular type of angina. I should say that if you saw your case for the first time during the attack it would be almost impossible to say whether you were dealing with the vaso-motor type, or whether you were dealing with a case of myocarditis, or a case in which there was an interference in the region of the aortic orifice. The general aspect of the case is the only thing that could give you a guide as to the immediate treatment; but after the attack, after the patient is relieved, then the case may be studied carefully and in most cases it is possible to determine whether you are dealing with one or the other type of angina.

Sudden collapse after a curettage for supposed abortion may mean the rupture of an unsuspected ectopic gestation sac,

—Exchange.

In case of brain tumor lumbar puncture may cause sudden death.

—Surgical Suggestions.

When a patient complains of pain in the eye with epiphora, don't always think that it is due to conjunctivitis. The cause may be beginning glaucoma.

—Surgical Suggestions.

Stretching the anal spincter alone will in many instances relieve an intense pruritus or a small prolapse of the anal mucous membrane.

—Surgical Suggestions.

THE PROBLEM OF THE OBSTETRICIAN IN CASES OF HYDROCEPHALUS.

WILLIAM GILLESPIE, M. D.,
Cincinnati, Ohio.

[Read before the Ohio State Medical Association.]

The problems presented to the obstetrician in cases of hydrocephalus are varied and important.

The condition is not of sufficient frequency to enable one in private practice to profit greatly from personal experience and the man whose consultation business enables him to study them with more thoroughness seems usually to prefer to write on some more spectacular, if less important subject.

When we recall that the dangers to the mother increase in direct proportion to the length of labor and that in such cases the pains may be weak, irregular and insufficient, and are therefore in danger of being mistaken for false pains, and that a large proportion of recorded cases of rupture of the uterus are due to this cause, the importance of its early recognition and proper management is at once apparent.

Any condition which prevents the engagement of the head within the pelvis tends to the production of weak inefficient uterine contractions, because the presenting part cannot descend upon the cervical ring and reflexly stimulate the uterus to more forceful efforts. It may be laid down as a general rule that the safety and ultimate success of all difficult labors will depend in large measure upon the intelligence and skill with which the first stage of labor is managed. If weak and inefficient, pains associated with lack of progress, are taken to indicate that waiting is in order, many cases of obstructed labor will be neglected until the time for effective assistance is long past.

If at the beginning of labor, in a vertex presentation, the head is not found within the pelvis there is something wrong and if the head rides entirely above the brim there is something radically wrong, which should receive immediate attention on the part of the attendant. Writers in all ages have devoted much space to warnings against over haste in rendering assistance to the parturient woman, and so ardent has been their zeal that the student becomes impressed unduly with the gravity of rendering assistance and unduly confident of the safety of delay. I am not an advocate of unnecessary activity in the management of labor, and frequently see cases where

by expectancy results are achieved that would have been impossible by any artificial means, but I do wish to insist that no intelligent man must await the results of the natural powers, without having first ascertained with certainty that they are directed aright, and that the conditions they are expected to overcome are safely within their jurisdiction. No man will ever be a diagnostician who does not habitually attempt to make a diagnosis. If exhaustion is allowed to supervene the chances of both mother and child have been compromised, the powers of the mother have been frittered away, and the difficulties of diagnosis have been greatly augmented. I wish, therefore, to emphasize the importance of early diagnosis in all cases, and especially in those where engagement is not already present at the beginning of labor, and satisfactory progress does not follow the onset of pains. But it is especially important that hydrocephalus be early diagnosed, because of the dangers which beset the woman in such cases and the insidious nature of the perils which are encountered. It has been generally and erroneously assumed as an axiom, that delay in the first stage of labor is not attended by serious consequences, to either mother or child. While granting that delay at this time is usually of less serious moment than after the os has dilated and the waters drained away, there is an indirect danger which may be indicated by the following axiom.

It is seldom that serious danger to either mother or child will arise in the second stage of labor, unless the first stage has been unduly prolonged. This axiom is more true than the first, and emphasizes the importance of knowing the conditions with which you must deal, before labor has progressed far. Believing this to be true, and intending later in the paper to advise a line of treatment which presupposes an exact knowledge of the condition with which we deal, I shall devote some time to the differential diagnosis of hydrocephalus.

If there is lack of engagement of the head hydrocephalus must be differentiated from an overriding of the brim due to uterine obliquity. In this condition if you straighten the uterine axis the head will be brought over the brim when it may, by supra-pubic pressure, be forced into the pelvis, conclusively showing that disproportion does not exist.

In posterior position of the occiput the head does not ride entirely above the brim. If the fingers are carried backward in the direction of the promontory the occiput will be found below the brim although a superficial examina-

tion might not seem to indicate any tendency to engagement.

Light may be thrown upon the possibility of pelvic contraction by the history of previous labors, or by the pelvimeter, but the real determination of the question must, in the presence of active labor, be by manual exploration. The head of an unusually developed child might be mistaken for a hydro-cephalic one but early in labor abdominal palpation should enable us to differentiate the condition. The lower portion of the uterus is not more increased in diameter than the upper. In other words, the enlargement of the uterus is symmetrical, while in hydrocephalus it is asymmetrical, unless associated with excess of liquor amnii, a condition which is itself easily made out.

At a later stage of labor when some dilatation has occurred the over-developed head will be felt to be firm and the sutures normal, while in hydrocephalus the head is softer and more elastic and the sutures and fontanelles more open. There are exceptions to this rule which will be touched upon later. Intelligent management presupposes an exact knowledge of the relative size and the mechanical relations of the head and pelvis. If, therefore, you cannot by more simple measures fully explain the delay in engagement and accomplish a satisfactory change by suprapubic manipulations, it is imperative that the patient be anesthetised and the hand be introduced to determine the cause of delay and the method to be selected of effecting delivery. This is equally important to child and mother. If the child is alive the location of the fetal heart sounds may arouse the suspicion of hydrocephalus. The large head riding above the brim causes the heart sounds to be heard upon the level of or even above the umbilicus. In cases of extreme distension of the head the uterus may be so large, even after the liquor amnii has drained away, as to arouse the suspicion of a twin pregnancy, but the broad globular mass below should enable one to make the differentiation. The spastic condition of the uterus, which so frequently occurs in hydrocephalus, may render more difficult, but should not preclude the detection of the unusual width of the head. With the hand in the vagina one of the conditions which instantly attracts attention is that instead of resting upon two or more points of the pelvic brim the hydrocephalic head leaves no free space around its orders. The soft top of the head is flattened by the resistance of the pelvis and if a finger is forced past the edge of the brim, you detect an abrupt broadening instead of a gradually cephalic curve. This condition is as

pathognomonic of hydrocephalus as is the wide sutures, crepitant bones and cranial elasticity of the typical case.

Having made out the presence of a large hydrocephalic head resting above the pelvic brim what is the rational treatment?

Thomas Keith records sixteen cases of rupture of the uterus in seventy-four cases of hydrocephalus and more modern writers make no attempt to question the accuracy of his figures. If the danger of uterine rupture is so great, to what mechanical reasons may we ascribe this danger?

It is probable that several causes contribute to such disasters. The zone of dilation of the uterus must stretch, in many cases, to twice its normal limits. If the increased expansion of the cervix, which results from a posterior position of the occiput, greatly augments the danger of cervical laceration, how much greater will be the danger when the excess of stretching beyond the normal is several times multiplied? In labor with a normal head by the time the os is two-thirds dilated a good portion of the head is bulging below its orifice, so that the zone of dilatation never, in normal cases, equals the perpendicular diameter of the presenting head.

In hydrocephalus the broad vertex cannot pass through and this relief is not afforded the stretching tissues, while the great increase in the perpendicular diameter of the head increases the depth of the zone of dilatation. These facts alone are enough to account for a large increase in the percentage of uterine rupture, but add to them the long continued pressure to which the tissues must be subjected, and the spastic condition which is especially apt to come in these cases from the frenzied attempts of the organ to empty itself, and it seems to me that he who temporizes, invites disaster to the mother without any hope of benefit to the child.

For such a child we can do nothing. Its life is forfeited before the onset of labor, for the percentage is small that will survive the birth and that small percentage lead but a negative existence of idiocy and helplessness. There is but one rational course to pursue and that is to remove the obstruction as soon as possible by opening the head. Sentimental twaddle about the sacredness of human life should deter no man from performing so obvious a duty, indeed the sacredness of human life should be our chief stimulus to the performance of craniotomy. If craniotomy is done early, the collapsed head will readily effect dilatation and be delivered by the natural powers, but if long deferred, the head should be promptly extracted, to prevent the at-

tenuated tissues of the lower zone of the uterus from sustaining the strain of labor.

Nature sometimes anticipates us in this method of treatment, and the pent up waters are forced through the foramen magnum into the neck or thorax of the child, or burst through the sutures and form a collection of fluid beneath the scalp. I have seen the latter condition in a consultation case and was for a moment puzzled by the condition presented. The upper part of the pelvis was filled by a fluctuating bag, which felt not unlike a prolapsed and distended bladder, but the fact that the finger could pass in front of the mass and detect the anterior lip of the cervix, effectually ruled out the bladder as the seat of the collected fluid, while further investigation revealed cranial bones above the mass and lead to a correct diagnosis. I could not wonder, however, that the attendant had been greatly puzzled by this unusual condition. This case occurred before I had devoted much thought to this subject and the method of delivery by version, of this dead fetus, I would not now commend. Version is, in the early part of labor, an operation of comparative safety, but the presence of uterine retraction, and especially of exhaustion, adds greatly to its risks. If in addition the lower zone has been stretched over a distend-hydrocephalic head, it becomes an operation of great danger, which should never be attempted where no hope of saving a child is to be entertained.

Some cases of hydrocephalus are met, however, in which the head has entered the pelvis, and the nearer approach of the head does not always lessen the difficulties of its recognition.

If the fluid contained is small in quantity and confined to the lateral ventricles, its incompressibility may render the head less amenable to the molding influences of labor. This is especially true if, as sometimes happens, the bones have kept pace in their development with the cranial contents. I know of no means of differentiating such cases before delivery and when the fluid is present in but slight excess it may be overlooked afterward. It is probable that some cases of unexplained death of children during labor, or soon afterward, may be due to this cause. In most cases of so moderate a character that engagement is readily effected, the moulding influences act quite readily, because of the loose connections of the cranial bones. It is this compressibility of the cranium in some of its diameters and lengthening of others which permits the spontaneous delivery of many cases with enormous heads. This pliability of the cranial wall is not, however, an unmixed advantage, for

it permits the head to mould itself into every inequality of the pelvis and thus greatly augment the resistance which must be overcome in its expulsion. But this is not the only disadvantage of this undue moulding. When a normal head must mould to effect a passage through the pelvis, there are points of greatest pressure and other points which are comparatively free from pressure and past which the return circulation of the mother is not materially impeded. The close adjustment of the large soft head of hydrocephalus to all parts of the pelvis, will much more seriously impede the circulation and sooner produce edema and friability of the soft parts. But in such cases the nerves of the pelvis, which are so placed as to usually escape undue pressure, are pinched and thereby the suffering of the woman is greatly augmented, while the uterus may be spurred on to spasmodic and dangerous efforts. Thus even these more moderate cases tend to increase the dangers to which the woman is exposed, including uterine rupture, sloughing of the soft parts, laceration of the pelvic floor and septic infection from devitalization of tissues. A loose condition of the cranial bones assists materially the passage of the after coming head, but in vertex presentation it seriously hampers us in our efforts to effect delivery. Our usual resource, the forceps, is denied us because of their inefficiency and the dangers which slipping of the blades entails. We may, however, have failed to detect the true condition because the lateral support of the pelvic girdle has given to the head a feeling of firmness which it does not possess. I have been thus deceived and attempted forceps delivery in a case of hydrocephalus. It is well, therefore, to consider the points of differentiation at this time in labor. Having applied the blades and locked the instrument, you note the wide divergence of the handles, but this divergence may be no greater than is seen in cases of large well formed heads. A marked difference, however, may be immediately noted as soon as the handles are firmly grasped. In the normal head there is a feeling of solid substantial resistance in marked contrast to the feeling of insecurity in the case of hydrocephalus. If not satisfied of the condition, tentative traction may be made, when the blades will mount upon the head, and if a finger be passed along their borders, they will be found to be indenting it. This result of experimental traction must not be confounded with the slipping of blades which have not been properly placed. No man should ever make traction until he has ascertained that the blades are really securely placed, but when the palpating

finger finds the anterior and posterior edge of each blade in contact with the head, and the instrument is properly locked, he may safely assume a secure application, and their mounting upon the head during traction means either a weak inefficient instrument, or a soft insecure head. If a firm grasp of the handles causes the blades to sink into the head, and this indentation is accompanied by bulging of the head upon either side of the blade, it may safely be assumed that the forceps is not indicated, and that a cranial condition is present which precludes the saving of the child. It would then seem wise to spare the woman all future risk and, in spite of the repugnance which we all feel to resorting to such an operation, perform craniotomy.

I am well aware that it is frequently asserted, and apparently believed, that the time is long past when we are justified in perforating the head of a living child. It is now fifty years since Tyler Smith read his masterly plea for the abolition of craniotomy, before the Obstetrical Society of London, and it is blithely assumed by many that modern advances have given us the power to grant that plea. Smith, unlike many of his modern disciples, was a thoughtful man and specified that the child should be both living and viable before it could be entitled to this exemption. I fail to see how a hydrocephalic child can, in any proper sense, be considered viable, and Tyler Smith himself had nothing less radical than puncture with a trocar to propose. What are the alternatives?

To await the spontaneous death of the child is cowardly and in the light of the known dangers to the mother criminal.

Version with an attenuated lower segment is dangerous to the mother, and substitutes death by asphyxia of the child, with a strong probability of subsequent perforation of the after coming head. It would only be indicated where the attendant was without instruments and must depend upon his unaided hands.

Pubiotomy is, in labor with normal heads, frequently accompanied by serious lesions of the soft parts and would be absurd in hydrocephalus.

The modern vaginal caesarean section would only complicate an already bad condition. Would you resort to abdominal caesarean section to deliver a child which must almost inevitably die and in the rare exceptions will live in a state of idiocy and helplessness?

Sentiment is a noble thing, and the world would be a dreary place without it, but at the bedside when confronted by dangerous compli-

cations of labor we must be guided by judgment.

DISCUSSION.

Wm. D. Porter, Cincinnati: Mr. President—Such an excellent paper should not go without discussion. The importance of the proper handling of the first stage of labor is well brought out and is not too strongly emphasized.

The analysis of the mechanics involved in head presentations is very able and very interesting. The only case I have encountered presented by the breech. The paper does not discuss the mechanism in breech presentation.

I was very much interested in the position taken with reference to destructive operations on the child, and thoroughly agree with the sentiments expressed.

F. S. Clark, Cleveland: I was anxious to hear Dr. Gillespie's paper and his attitude in handling these cases. I had one case of hydrocephalus in which perforation was done; there could have been no other treatment. The only fear would be in a mild grade of hydrocephalus in which there might possibly be a mistake in diagnosis. It might have been only a very large head. It is probably possible to make a diagnosis that will not leave room for a mistake, and all the middle grade of cases where the amount of fluid is not very large the greatest care must be taken not to make a diagnosis too hasty.

Magnus Tate, Cincinnati: I enjoyed the paper because, first, it laid emphasis upon the making of obstetrical diagnosis, and, second, because the author has come to definite conclusions as to the method of treating cases of hydrocephalus. While I do not agree with the positive assertion that a craniotomy should be performed upon a living child, I can readily see that in some cases it would be justifiable. We have a question which should be carefully and conscientiously considered, namely, whether we are justified in performing so radical an operation in all cases. Consultation is always advisable before the performance of craniotomy, as we are dealing with a grave question and the seriousness of it appeals to physician as well as family.

I have in mind a case of hydrocephalus, male, twenty-seven years old, living in a little country town, who is the main support of an invalid mother, he earning a livelihood by selling papers. In a very marked case of hydrocephalus we, unfortunately, have no other course to pursue than that of craniotomy. I report this case in question to show that had so radical operation as craniotomy been performed, a useful life would have been sacrificed and a grievous error would have been committed.

E. A. Curry, Cincinnati: Since the dangers are so great I would like to ask the doctor if after he has made diagnosis even in the early months of pregnancy, say at the fifth or sixth months, possibly, would he urge the emptying of the uterus?

J. J. Thomas, Cleveland: Dr. Gillespie's position is that of advocating perforation in these cases. I support what Dr. Tate says from an experience in one case. I recall the oldest child

of a patient whom I have delivered several times. The first baby was delivered by some one else; by two doctors, in fact. After a very difficult forceps delivery an hydrocephalic child was born. It is now seven or eight years old. The head is much larger than that of any of us, but I hope does not contain so much brain. It is a hopeless invalid; it has not an idea. The mother loves that child more than all the other children put together; there is absolutely no question about it. If the question were put to the mother whether she would have preferred to have the child's head punctured, she would say no.

There is another feature from a practical point of view. Dr. Gillespie did not question what the parents would say if craniotomy were suggested to them. The mother is often willing to submit to severe forceps delivery and probably the child can be delivered without injury to her. It is a question in my mind if we ought to be judges in spite of what is said on the subject in the books. Of course, we do not know whether the child will be an idiot or not. I also heard of a case sometime ago where the child was the sole support of the family. When you come right down to the facts of the problem of that head it is not such an easy matter to decide. Craniotomy in its place is perfectly justifiable, and it is justifiable if delivery cannot be accomplished any other way.

Dr. Gillespie (Closing Discussion): One gentleman asked about the diagnosis of hydrocephalus at six or seven months. Few practitioners can make it at that time. In the first place, the condition often develops in the last few weeks. In the second place, the relatively small size of the child to the uterus at so early a period would render its recognition improbable.

In judging of this subject from a few cases of hydrocephalus who have reached adult life, we must not forget that those conditions sometimes develops after birth. In my paper I did not propose to perforate every hydrocephalic head, but only such as were clearly recognized as such. The cases which may survive are those where the trouble is present in a lesser degree. But, if the head cannot enter the pelvis because of its excessive size, it will not be rational to do caesarian section in the hope of saving such a child, and you should perforate promptly and spare the mother the risks which attend such labors. If, in a case of less degree, the head is in the pelvis, but so soft that the blades will not maintain their grasp, and if the instrument is not a weak one, and upon passing the fingers round the edge of the blades they are found upon all sides to have no projecting edges and yet they mount upon the head when traction is made, you may safely assume that delivery under the circumstances is dangerous and offers nothing for the child, and perforate in the interests of the mother.

In the last year, or a little more, I have been compelled to perforate three cases for disproportion from this cause; two dead and one living. In the case where the child was alive the woman had been in the hands of a midwife for twenty-four hours and in the hands of a physician for another twenty-four hours. Some hours before I saw her, a very able consultant had been called

who could do nothing because of the high position of the head. In spite of the long labor and the spastic contraction of the uterus which threatened its rupture, the heart was beating as clearly as I ever heard one. Children with defective brains will stand the spastic contraction of the uterus better than normal children.

One of the objects of the paper was to accentuate the importance of discovering early why the head does not enter the brim. When a woman is having pains regularly and nothing is being accomplished, it is the duty of the attendant to find out why or, if the pains are false, put a stop to them. Dr. Porter's question about the after-coming head is interesting, and I should have discussed it, had I not had difficulty in confining the paper within the allotted time.

INDICATIONS FOR CAESAREAN SECTION, WITH REPORTS OF TWO CASES.

WILLIAM D. PORTER, A. M., M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

It is not the purpose of this paper to discuss, exhaustively, the indications for Cæsarean section. In general terms it may be said that any mechanical obstruction which will prevent the delivery of a living child through the normal channels, is an indication for the operation. The obstruction may be a deformed pelvis, a fibroid or ovarian tumor, or some pathological condition of the cervix such as cancer or cicatricial tissue. As a rare exception, the mechanical obstruction may consist in a malposition of the uterus or a malposition of the child. Such exceptions have occasionally been found in cases in which ventrofixation had been done. Perhaps the only malposition of the child which could justify Cæsarean section would be an impacted shoulder presentation in which version would involve grave danger of rupture of the uterus.

The indication for operation may be modified or cancelled either by neglect or through unwise interference. In case of a strong woman, the contractions may be so severe and prolonged as to imperil the life of the child by interference with the utero-placental circulation. By too vigorous efforts with forceps cerebral injuries may be inflicted which will greatly diminish the child's chances of survival. With the child living, but not likely to survive, the indication for section loses its force, and embryotomy may be indicated, even though the child be not yet dead.

With a moderate pelvic contraction and with the head not engaged, it is often impossible to predict the result of the labor. The resort to

high forceps, unless undertaken with the utmost caution, may so complicate the situation as to greatly increase the risk of more serious procedures.

The advice that if moderately forceful efforts with forceps do not cause some descent of the head, Cæsarean section should be done at once, is good advice. In the hands of a competent man, such use of the forceps should not be a contra-indication to section.

But in spite of all precautions, children will occasionally be lost because at times it seems best to accept the increased risk to the child rather than to do a section. These cases are usually encountered in primiparous patients. In subsequent pregnancies, these borderline cases should be carefully watched. If the head is not engaged and cannot be readily forced into engagement at the end of the eighth month, labor should be induced within a week or ten days. This is strongly indicated in cases where the first child was above the average size. Labor is readily induced by the Braun bag. It usually causes vigorous pains, and these are valuable in causing *engagement* and *moulding*, both vital factors in these cases. In some cases such pains may be produced by placing the bag in the vagina.

Pubiotomy is strongly urged for these borderline cases. It may at times be indicated provided the soft parts offer but little resistance and provided the pelvis, as enlarged by the operation, permits the easy extraction of the child. To employ the method in cases requiring great force and even version to effect delivery, is to subject both mother and child to greater risks than are involved by Cæsarean section.

There are men who decline to do Cæsarean section if the woman is suffering from exhaustion, if there have been attempts at delivery or even if an examination has been made. Such an attitude doubtless tends to establish a low mortality record, but must at times work great injustice to the patient.

There are cases in which Cæsarean section is the only rational procedure, even though the patient be infected and suffering from exhaustion. As illustrations of this proposition, I report the following cases:

Mrs. P. D., colored, entered my service in the Cincinnati Hospital July 16, 1907. She was thirty-six years old and had been married three years. She had one child eighteen months old. This child was born without difficulty.

At the time of her admission to the hospital, she was in labor at term. Almost three days previously her labor had begun. Her pains were

sufficiently strong and frequent to prevent her from sleeping. As she made no progress and showed signs of exhaustion, her physician called an ambulance and sent her to the hospital.

Her pulse was 108 and temperature 102.4. Vaginal examination disclosed a solid mass almost filling the pelvis and so completely immovable and so hard as to suggest the idea that it was a bony growth from the pelvis. On separating the labia a greenish fluid, purulent in appearance was seen oozing from the vagina. The foetal heart was readily heard and seemed to be normal.

Notwithstanding the infection and exhaustion of the woman, it was decided that Cæsarean section was indicated, and two hours after her admission the operation was done. An eight-pound boy was delivered, somewhat asphyxiated, but he responded promptly and was soon breathing well.

An ovarian tumor, the size of a large orange, which had undergone calcareous degeneration, was found impacted in the pelvis. It was easily released.

Owing to the infection, a supravaginal hysterectomy was done. This proved to be an easy procedure. The retraction of uterine tissue after delivery, made the peritoneal investment of the uterus seem very ample, and after closing the muscular layers, the peritoneal covering was easily pulled up and stitched over the wound so as to prevent any leakage towards the peritoneal cavity. The facility with which this can be done makes me doubt the wisdom of treating the stump extra-peritoneally, as has been recently suggested.

The patient made a good recovery, but the septic involvement was nearly three weeks in clearing up. The catgut in the cervical stump showed, ten days after the operation, at the external os and was removed entire. There was infection of the abdominal wall and several sinuses were established through which pieces of catgut were thrown out. More than twenty-four hours before the operation the membranes had ruptured, and the amniotic fluid had doubtless become infected. Under the circumstances it was an error to use buried sutures in closing the abdominal wall.

After the first week she was permitted to nurse the child. They left the hospital at the end of a month, and have been very well ever since.

On February 5, 1908, I was called by Dr. E. Schwab to see Mrs. E. K., white, æt thirty. She had two children aged nine and seven years, respectively. The second labor was difficult and was terminated with forceps. Two years later

she consulted a gynecologist, who found the cervix enlarged and badly torn. He did a high amputation.

Two years after this operation she became pregnant, and when I was called to see her she was in labor at term. Her labor had begun two days previously. Early in the first day the membranes ruptured. Her pains had been sufficiently strong and frequent to prevent her from sleeping.

On examination the finger encountered a collar of scar tissue at the site of the cervical amputation. The opening was large enough to admit a finger. Dr. Schwab had examined her early in the labor, and a comparison of notes convinced us that there had been practically no advance.

To dilate this ring of scar tissue was an impossibility, and to make incisions seemed unwise owing to the obliteration of landmarks and the risk of injuring neighboring organs.

The woman was exhausted. Her pulse was rapid and her temperature was 102. The early rupture of the membranes and the long labor had probably resulted in infection of the amniotic fluid. The foetal heart sounds were normal.

The case was not a promising one for Cæsarean section, and yet it was clearly indicated as the safest procedure. She was sent to Bethesda Hospital and at 9 that evening I did the operation. The placenta was directly under the line of incision and it was necessary to go through it to get the child. The hemorrhage was profuse for a short time, but ceased as soon as the uterus was emptied.

The patient had fever for a couple of weeks, but left the hospital in good condition at the end of a month. She was able to nurse her baby.

The child has grown nicely, and they are both in good health.

DISCUSSION.

S. J. Goodman, Columbus: It has always appeared to me that Cæsarian section of itself is a comparatively simple operation; a rather spectacular and a beautiful operation to bring any of our friends to witness. The practitioner should use a pelvimeter and make a diagnosis in every case before it comes to term. The majority of cases seen by me in consultation are those which have been sent one month or so before end of term. It seems to me that contracted pelvis and certain other deformities of the pelvis are indications for Cæsarian section and, as the doctor has stated, there may be new growths, or tumors of various kinds which would demand this form of operation. Dr. Baldwin, of Columbus, Ohio, under whom I received my obstetrical training, says, after years of practice of surgical obstetrics, that it is a pretty good scheme to wait, and not to put forceps on, nor perform Cæsarian section until you are mighty sure you can deliver in no other way. I recall a woman in Pike county, in

a country district, whom I saw on Sunday, who had been in labor since Friday morning. There was a contracted pelvis; antero-posterior contraction. I was thoroughly satisfied that it would be necessary to perform Cæsarian section. I drove with her in a buggy four miles through the country, put her on a sleeper, and took her to Grant Hospital. The next morning I delivered her very easily with low forceps. I was very much disappointed for I wanted a Cæsarian section to my credit. Many men who advise Cæsarian section are too rapid and should use a pelvimeter; however, Cæsarian sections are performed more successfully than formerly, and the mortality is greatly reduced.

F. S. Clark, Cleveland: I did not understand Dr. Porter's reason for not doing vaginal Cæsarian section in second case. Was the head engaged or in the cavity? If the pelvis was not contracted, it seems as if there would be much less risk to the patient to open the uterus from below than through the abdomen. If the landmarks were absent, however, the vaginal incision might be a dangerous operation.

E. A. Curry, Cincinnati: Dr. Porter's paper is a good paper on the subject. I am inclined to be just a little slow about doing Cæsarian section or applying forceps either. I believe it is a good plan to wait for indications. The condition of the patient would indicate how long to wait. If the patient is doing nicely and the pains come on regularly, more frequently, and some forcible pains beginning will get along without anything else. As to the use of the pelvimeter. Sometimes we reach cases when it is practically too late to make such measurement as that. We were called possibly after labor was begun a great many times. In some cases where we do have a chance to make measurement it is an excellent thing to do when possible. In regard to the use of forceps, as our friend by the window has spoken of, in posterior cases, I will say I have had three or four such cases in less than a year. Fortunately, I have not lost any babies or mothers either. I have had lacerations, pretty bad ones in some cases; one is pretty fortunate not to have some laceration in every case. As far as using forceps, or Cæsarian section, or any of those things, I think we had better wait and see what developments take place further on.

George C. Schaeffer, Columbus: Dr. Goodman's suggestion regarding the use of the pelvimeter is timely. Objection is raised that we too often come to cases late and are called after labor has begun. This does not seem to me a valid objection to the use of the pelvimeter. Every man who goes out on an obstetric case should carry a pelvimeter with him. A measurement is soon made and easily determines the course to pursue before labor begins. If there is anything abnormal in the position of the fetus, the doctor will know and can determine whether or not the maternal parts will admit of the passage of a normal child. In all posterior presentations appearing in my practice, I have had but one case in which I felt Cæsarian section might have been advisable, and that was the one case in which I did not make pelvic measurement. In the first case I lost the child; saved the mother, but with a very extensive tear. Possibly this was a case in

which the pelvic measurements were too small and Cæsarian section really was indicated. We may be justly blamed for negligence if we do not always carry a pelvimeter with us even when we have been called after the patient is in labor.

J. J. Thomas, Cleveland: I should like to ask Dr. Porter whether he considers the relative indications for Cæsarian section different from the indications for pubiotomy. Williams advises either operation according to the choice of the operator. A number of pubiotomies have been done in Cleveland during the past year. The operations are easily performed and are lacking in special danger to the mother. In my opinion a man who has not had proper training would not possess sufficient skill to perform Cæsarian section safely. Pubiotomy gives as much field for application than Cæsarian section.

Wm. D. Porter (Closing): Mr. President—I wish to thank the gentlemen who were so kind as to discuss paper. I can hardly believe that Cæsarian section is ever necessary because of occipito-posterior position. Such cases are easily rotated. My friend, Dr. Gillespie, usually rotates with forceps. I generally use a bimanual method which I described a few years ago in a paper before the American Medical Association.

It is well to make routine use of the pelvimeter, particularly in primiparae. We should remember, however, that it is not so much the absolute size of the pelvis, as the relative size of the pelvis and child that determines the character of labor. This is well illustrated by a report from Johns Hopkins several years ago, giving the pelvic measurements in 1000 cases. Approximately 500 were white and 500 colored. Contractions were more frequent in the colored women, yet the white women required help about twice as often as the colored. This is explained by the smaller size of the colored children.

In case of contraction we often gain much by waiting until nature has effected engagement and molding. In a few cases I have succeeded in effecting engagement with high forceps and then left the case to Nature until the head is molded.

One of the speakers referred to one of my cases as suffering from shock. This is wrong. She was in a condition of exhaustion, but not of shock.

There is perhaps a very small percentage of cases in which pubiotomy is preferable to Cæsarian section. If there is engagement, dilatation of the cervix and only moderate disproportion, it may be preferable, particularly if there is reason to suspect infection.

Dr. Clark asked why vaginal Cæsarian section was not done in the second case reported. There was a ring of unyielding cicatricial tissue at the site of the internal os. As the landmarks were gone, incisions were dangerous, as they might have been followed by tears into neighboring organs.

PSYCHOTHERAPY.

C. D. MILLS, M. D.

[Read before the Ohio State Medical Association.]

With all the attention that recent years has given to the subject of psychotherapy, it is a safe assumption that physicians in general have a very imperfect conception of its importance, and a limited knowledge of the methods of its application. That such an agency for good should have been so neglected has detracted much from the usefulness of the medical profession. While its injudicious and ignorant employment by almost innumerable fakeisms has on the whole done a great deal of harm, one good has by this means resulted, and that is, that the doctor has been caused to wake up and take notice, and our medical colleges to appreciate the practical necessity necessity for the teaching of psychology.

Psychotherapy is not a universal panacea, and yet is a resource of almost universal application. It has a secure place in every department of medicine. Among general practitioners are many Dr. McClures, of whom it may be said, "The very looks of him is victory." The anesthetist, who by his assurance and positive suggestions eliminates the dangerous element of fear; the surgeon, who by a well earned reputation through a prolonged and successful experience in his chosen field, inspires hope and confidence; the obstetrician, who encourages and quiets the woman in travail by the cheering statement that "You are all right, and that the pain will be no greater than you can bear"; the specialist in mental and nervous diseases who assures and encourages those of unstable and defective nervous organizations; all these are making legitimate applications of psychotherapy.

I am by no means a drug iconoclast, nor any kind of an iconoclast. The up-to-date physician has a mind receptive to truth from any source. He must have the power of exclusion and inclusion. He should be a rational skeptic, believing nothing, and yet believing everything. Pessimistic only as to the possibility of failure. Optimistic is a degree only limited by the limitations of finite knowledge. Since brevity, and I trust practicability are to characterize this paper, we must take no time in reviewing the various theories of suggestion, but will enter at once upon a presentation of what appear to me to be salient features of the subject. Let us consider the application of psychotherapy under two heads. One, we may designate the direct, and the other, in-

direct method. Neither method is to be used to the exclusion of the other, as each has its peculiar field of usefulness. Among the examples of suggestion by direction are a simple remedy given with the assurance of great benefit to be derived from its use, the various physiological methods such as electricity, massage, hydrotherapy, etc., which are material agencies which owe much of their value to the faith which our patients have in their employment. It is frequently much easier to have our directions faithfully carried out when one such agency or combination of agencies is emphasized as possessing unusual merits in relieving existing conditions.

I have not yet arrived at the position of Dubois, where I am able to burn all the bridges behind me, fearlessly cutting loose from every physical agency, and then relying entirely upon the re-education of the reason. I can easily understand how he can secure such remarkable results who has established a reputation for this particular kind of treatment, and has thereby attracted to himself a clientele that has faith in him and his methods; patients who have exhausted all the mental and mechanical resources of modern science without results before consulting him and have come to him believing that they will be benefited, consequently as their faith is, so is it unto them. The Great Physician used the saliva and the clay and the waters of the Jordan, not for their intrinsic worth, but for the purpose of furnishing something appreciable by the senses that would serve as a means of inspiring a faith, without which He said He could do nothing. The physician who carries out in detail the ideas of Dubois and others in his chronic constipation cases, will accomplish much, but if as a cooperative measure, he will employ Faradism, using one electrode in the rectum and the other over the abdomen, together with thorough systematic abdominal massage, will accomplish much more.

My idea is the furthest removed from minimizing the importance of mental and moral reeducation; in fact our objective point should be to gently but certainly lead our patient away from a state of dependance upon extrinsic supports, to a position of dependance and reliance upon self, but this is ordinarily a long road to travel and the space cannot be eliminated by any short cut method or by any trick of leger-demain. We possibly have fallen into error in the past in an effort to secure the confidence of our patient in ourselves and in our methods, rather than in themselves, and that we have not devoted enough time to advice and instruction; perhaps we have not been sufficiently honest, and that we have not

kindly but frankly said to them that their symptoms are the resultant of their own unfortunate mental representations, and that they have within themselves the power of inhibiting some of their afferent impulses and of ignoring others. Perhaps the direct appeal to the reason should be more frequently used. For myself I have not found it practicable to rigidly adhere to this or any other plan, but I am trying to adapt my efforts to each individual problem.

Laboratory methods and instruments of precision added to the accumulated knowledge of the past, are leaving a progressively smaller place for functional diseases, and yet it is true that often the pathology is so insignificant as to be ignored, and our attention should be directed to mental representations that are morbid, which exist as the result of a defective heredity and a defective education. How many women have been ruined for lives of usefulness by over zealous doctors looking for so-called reflex causes of morbid thinking, in some insignificant pelvic condition in which the patient should be altogether ignorant, the Lord only knows. Brief mention need only be made of the importance of discretion in the matter of prognosis. To deprive a woman of the blessings of maternity by the careless suggestions of the very great danger, or impossibility of child bearing in her particular case, or of a protracted period of invalidism until after the menopause, or even to take away the last ray of hope from those who are hopelessly ill, or even to suggest the possibilities of a serious condition when there is a strong probability of our being mistaken—all these are mistakes against which the thoughtful physician will zealously guard himself.

Confidence is the keynote to success, and it goes without saying that we should carefully avoid making negative or affirmative suggestions that we are not quite certain will materialize. For notwithstanding our faithful efforts to build up the personality of our patients, we are constantly reminded that our super-structure is resting upon a very insecure foundation; and that it is of the utmost importance that the doctor be to his patient a fortress and a tower of strength. Accepting as true the statement of Dubois, that no one can be or be otherwise than they are today; that a present volition to act or not to act is simply the natural sequence of a present mentality, which mentality is the sum of two factors, viz., heredity and education; we must change our attitude towards our patients. Our neurasthenics, hysterics and hypochondriacs try us sorely and almost drive us to distraction, but if we constantly keep in mind that they are simply acting their part, and

that our relation to them is neither that of scold nor critic, but that our duty consists in inaugurating new afferent impulses with the hope of at least modifying their pathological thinking.

I wonder if those of us connected with private and public institutions for the nervous and insane have this thought constantly in mind, and remember that our mission is to if possible cure the unfortunates committed to our charge, and that we do not stand in the attitude of either jailer or warden and that even the dyspso-maniac can be made no less a dyspso-maniac by harsh measures or by being warded with those who are pronouncedly insane? In this condition, just a word on the subject of the suggested State Institution for the treatment of inebriates and narcomaniacs. There is no such urgent demand for any proposed state charity as there is for this. Many of these unfortunates come from the homes of the poor, which renders their care in a private institution absolutely prohibitory, however low the price of treatment. A prolonged residence in a private hospital is for them out of the question. While these persons are in a sense insane, they cannot be successfully housed with the other forms of insanity. Such an institution should be conducted upon the industrial plan and both confirmed alcohol and drug users should be committed to it for periods varying from six months to three years, where they would be shielded from temptation and their families and communities be protected from them. I suggest that the department of Mental and Nervous Diseases of the State Medical Society put itself on record on this proposition and if thought wise to appoint a committee to confer with the governor and use its influence with the proper committee at the next session of the state legislature to secure the needed legislative enactment.

It is a hard lesson but an important one, that the welfare of our patient is primary and must take precedence over our own mental and physical comfort. The relationship of the physician to his patient should be that of parent to child, or that of teacher to pupil. As the years go by this relationship will be increasingly emphasized, when the hope of the medical profession ends in the rich fruition of being rewarded for service along the line of prevention, rather than of cure,

and then, when the dreamed of day arrives when the general public appreciates this as being the highest mission of the doctor, then will the idealistic adjustment be fully made. We presume too much upon the public's intelligence and are inclined to criticise them for not knowing well the things with which we are familiar.

The morbid thinking of our patient cannot be corrected by a single refutation, however positive and clear we are in the presentation of the truth. It is only by repetition and patient repetition that the mental representations of our patients are corrected. It is said that our ideas lead us only when they become convictions, and when we have been lead by incorrect ideas it is no simple thing to install an absolute opposite process of mental activity. I am to say the least, not bubbling over with enthusiasm over the Emanuel movement. I place a very high estimate upon the legitimate work of the church. It serves as a most valuable adjunct to the doctor, but when it gets out of its legitimate sphere and into the healing business, however much it alleges its subserviency to the doctor, I believe that the most pernicious system of quackery that the world has ever known, is a certain sequence. Unfortunately all ministers have not the broad culture of Dr. Worcester. If they had, they would be able to differentiate between the things they understand and the things they do not understand. If only such as he would employ the Emanuel method, the medical profession might give the subject more favorable consideration.

Psychotherapy should only be employed by those who can discriminate between those cases where it is adequate as the sole agent of cure, and where it is useful as an adjunct to other measures. Perhaps it is not inappropriate in this connection, to say that there was never a greater demand for physicians, who not only theoretically but practically understand not only the intimate relationship of the physical to the moral, but also of the moral to the physical. The minister offers to the weak and suffering the support, comfort and healing of the Omniscient Physician. We will bring strength and comfort to ourselves and secure the confidence of our patients by bringing to them a cultured brain, together with some of the virtues that characterized the Great Physician.

ONE METHOD OF REMOVING THE FAUCIAL TONSIL WITH NEW INSTRUMENTS.

MARK D. STEVENSON, M. D.,
Akron, Ohio.

[Read before the Ohio State Medical Association.]

Ideal operations on the tonsils are difficult, require skill and much experience, and at present are seldom performed. Various methods of totally removing the tonsil with its capsule have been described, and I do not claim any essential difference in method from those advocated by others, but hope that description of certain details with a few additions of handy instruments to our already overloaded armamentarium, may prove useful in the effort to replace partial with complete operations so that there will be no "recurrence" of these growths, although rarely a certain amount of inflammation may persist for a few months. In certain cases less radical operations as tonsillotomy—"tonsil snatching"—cauterization of diseased crypts, etc., afford at least temporary relief from the distressing symptoms present, but the final results are usually disappointing. It is next to impossible to eliminate thoroughly retention spaces in the tonsil by anything short of complete removal, as there are numerous follicles, surrounded by adenoid tissue, branching out into the substance of the gland from the many recesses in the crypts which subdivide and anastomose with each other. The importance of their removal when diseased is emphasized by the fact that each follicle, lined with epithelium, is surrounded by a close plexus of lymphatic vessels which pass to the deep cervical glands in the upper part of the neck.

Most surgeons operate only on tonsils which project beyond the pillars, slicing off the projecting part with a tonsillotome or snare, evidently thinking that the removal of mechanical obstruction, while sometimes important, is all that is necessary. The glandular tissues and crypts in the deeper hidden portion of the tonsil are afterward sealed up by bands of scar tissue which partially or wholly prevent secretion and excretion, throwing off of epithelial cells and other debris with resulting continued inflammation and toxemia. It is to be hoped that tonsillar surgery will be raised to the dignified position it rightly deserves since modern research, careful clinical observations and correct methods of operating have clearly established a list of

ills traceable to the tonsils, especially to the submerged variety, and too often made worse by their incomplete removal. These, among others, include tuberculosis, infective arthritis, endocarditis, rheumatism and various inflammations and other pathological conditions of the tonsils and surrounding and connecting parts, as the nose, ears, pharynx, gastro-intestinal tract, larynx, cervical lymphatic glands and pleural cavities. The present great clinical importance of the tonsil makes it worthy of the most serious and painstaking study, but I will not consume the valuable time of this section with any discussion of symptoms or of the various indications for operative interference.

Better results may possibly be secured if attention is more particularly directed to the condition of the tonsillar recess or fossa, which is often a catch basin. The mucous lining of the mouth and throat is normally smooth. With the exception of the spaces between the teeth, those in or around the tonsils and the follicular crypts in the posterior and especially in the lateral wall of the pharynx, there are no large retention spaces in the mouth or that part of the throat with which food comes in contact. The local and general diseases which result from unclean teeth are well known. The common and more serious conditions resulting from retention of decomposing, germ laden foreign material in the small spaces in the tonsillar fossa—in or around the tonsil—are now receiving deserved attention. An almost ideal portal for the entrance of bacteria and toxins lies in the tissues in and around the tonsillar fossa, with its spaces, changing lymphoid tissue, rich blood and lymphatic connections at the crossing of the digestive and respiratory tracts, at the junction of the epiblastic and hypoblastic portions of the alimentary canal, in contact with all matter to be swallowed and air inhaled or exhaled, changed with every act of swallowing and with many movements of the tongue.

The surgery of this region should not be limited to that of the tonsil alone. The surgeon's work does not always cease with its complete extirpation. The tonsil may be even completely removed and but little relief be obtained if collecting spaces are left through the formation of scars or foldings of the pillars or other boundaries of the tonsillar fossa. A smooth fossa with no retention spaces is the result desired. To obtain such a complete result extirpation of the tonsil must first be performed. The ledge below the tonsil should be trimmed off. If the plica triangularis is large, and after removal of the tonsil hangs over the fossa in such

a way that it is likely to heal so as to leave a pouch, part or all of it should be removed. This is also sometimes true of a very large redundant anterior pillar. I have never thought it necessary to sacrifice any portion of the posterior pillar, but have removed portions of the anterior and afterward several times regretted that I had not done so. If follicular crypts are present behind the posterior pillar, I prefer to remove them later by the electro-cautery.

In children under twelve, especially in those who also need to have adenoids removed, a general anesthetic should be given. Some over twelve who are very nervous also require general anesthesia, but I find it easy to operate under a local anesthetic in nearly every patient over fourteen and many under that age, the personal element largely determining the selection of an anesthetic. Besides the usual precautions before operations as to diet, special examinations, attention to bowels, etc., these patients, if old enough, should sometimes use gargles (e. g., 1 to 4 hydrogen peroxide) for several days; if necessary, appropriate nasal treatment, as nasal douches, sprays or ointments.

The operating table should be high and narrow. I have a strong side placed on mine extending to within two feet of the head of the table to support the patient's body which is rolled

Ether is safer than chloroform in these cases, and most other anesthetics do not give sufficient time for the operation. An appropriate dose of morphine and atropine is given one-half hour before administering the ether to stimulate the heart, diminish the secretion of mucus, and lessen after-pain. I prefer fairly deep to light anesthesia and do not commence operating until full anesthesia has been maintained for some minutes.

The mouth gag, held by an assistant, is then inserted and slowly opened, the ether—special apparatus being unnecessary—is continued on gauze held over the nose in such a way as not to obstruct a view of the mouth. With some of the various knives or dissectors—I usually use Tyding's or my own—the pillars are dissected from the tonsil. Various dull dissectors may be employed, but the finger is one of the most useful instruments for the purpose, especially in small throats. After the tonsil is completely separated so that it can be readily drawn out of its fossa, being attached only by a central base, almost any instrument, if properly used can be employed to sever the pedicle. I have lately employed an angular knife made for me by V. Mueller & Co., of Chicago, which cuts on the pull and that has a straight blade which is easily sharpened.



Author's Angular Knife.

forward against it. One shoulder rests on the flat portion of the table and the other against the side piece so that the transverse axis of the body lies at about an angle of 45°. The head, face down and to the side, is supported at the side, near the end of the table, by an assistant who also holds the mouth gag. This makes the neck slant downward from the body so that the blood and mucus or vomited matter can readily and constantly drain out of the mouth and not enter the trachea or be swallowed, and but little mopping is required to keep the field of operation clean. The operator should sit on a low stool so as to be able to look upward into the patient's mouth. The position is a little awkward for the operator, but it is safer for the patient. Artificial light is required in this position. A good electric head light is preferable to a mirror which must be adjusted for each change in position of the operator's head or light, and is also better and more reliable than lights held by hand which properly necessitates another trained assistant.

Almost any knife will do if properly used, always taking care to cut downward, not upward which might wound the soft palate. A cold wire snare carefully placed around the base of the tonsil while it is pulled out of its fossa, may cut the base with little resulting bleeding if at first it is simply pulled very tight for a short time so that thrombi may form in the vessels. It is sometimes difficult to remove thoroughly all the lower portion of the tonsil, and beginners also frequently overlook an upper portion so that after drying the fossa by pressing gauze into it, a thorough inspection by sight and by feeling with the finger should follow, and if any tonsillar tissue remains, it should be thoroughly removed by a good tonsil punch. However, care should be taken not to wound the adjacent muscles as more severe hemorrhage is likely to result if the larger vessels in or beneath these muscles are cut.

Scissors may also be used to free the tonsil from its bed and remove it entirely, but in my hands, under a general anesthetic they are not as

serviceable for dissecting as knives, and not any single pair of scissors can be easily manipulated in every desired direction. I much prefer scissors under local anesthesia for reasons given later, but think they are more dangerous and difficult to manipulate than knives or snares under general anesthesia where the field is more likely to be obscured by blood and mucus. Complicated guillotines of many different sizes are unnecessary. I usually employ one or more of my fingers as tongue depressors, but in some cases prefer to have an assistant depress the tongue. With my strong curved tongue depressor, the tongue can be readily held down and to the side opposite the tonsil being operated upon. The tongue can not work over or under this depressor if properly held.



Author's Tongue Depressor.

A half hour before local anesthesia is commenced, morphine and atropine is given hypodermically. The patient is seated in an ordinary operating chair or lies on his side on a high operating table. A saturated solution of cocain in one to 1000 solution of adrenalin is painted on one tonsil, the patient being cautioned not to swallow any. After spraying a small quantity of one-fourth of 1 per cent. cocain in the nostril, cotton pledgets wet with 4 per cent. cocain solu-

dle and posterior branches from Meckel's ganglion pass downward to form with the tonsillar branches of the glosso-pharyngeal the plexus of nerves around the tonsil—circulus tonsillaris. This also anesthetizes the mouths of the eustachian tubes so that the patient does not experience so much distress toward the ear. In addition by this simple means the palate and uvula are usually completely anesthetized, diminishing gagging. The strong solution of cocain is again applied to the anterior pillar and into any crypts in the tonsil or spaces around it. With a long barrel hypodermic syringe (I use Parke Davis & Co.'s dental syringe with extension needle) a few minims of a one-fourth of 1 per cent. solution of cocain in 1 to 5000 adrenalin is injected deeply in several places through the pillars behind the tonsil and near its capsule. The adrenalin reduces immediate hemorrhage and hinders the general absorption of cocain. In a few minutes the removal of the first tonsil may be commenced. As soon as it is removed the application of cocain and the injections may be made into the other tonsil. My experience with other local anesthetics is too limited to be worth stating.

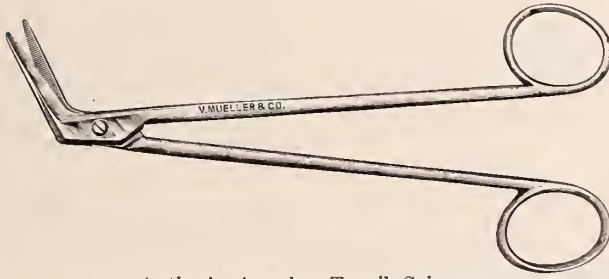
Under local anesthesia I much prefer scissors to knives or any other instruments. Knives require more pulling on the tonsil than scissors do and, therefore, cause more pain. The sharp blades of scissors cut clean without pulling and, therefore, cause little pain especially that toward the ears commonly complained of after the use of the knife. While I find it possible to do the operation with one pair of scissors, I much prefer to employ two or three varieties. The handles and joints of nearly all scissors closely appropriate and are, therefore, likely to pinch the tongue or lips of the patient. This is not possible with mine as they have been made with rounded corners and handles which do not come in contact. One pair curved on the flat is similar to various other tonsil scissors. The length and curve has been carefully considered.



Author's Tonsil Scissors Curved on the Flat.

tion are placed well back in each naris so as to lie in the posterior choana. This, first proposed by D. W. Stevenson, anesthetizes the posterior lateral wall of the naris through which the mid-

However, in cutting certain parts it is difficult to use this pair and unnecessary discomfort is produced, so I have designed a complementary pair bent on the edge.

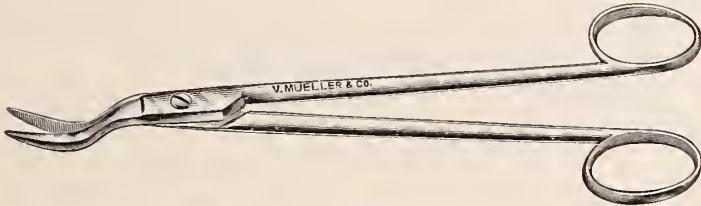


Author's Angular Tonsil Scissors.

Whenever one pair is difficult to use the other can always be used easily. I have also had a convenient pair with lowered curved ends made especially to cut free the lower border of the capsule which is below the upper surface of the tongue. Holmes's nasal scissors are often very useful for this purpose.

greatly relieving the patient's stress or whenever he desires it, so that my patients are nearly always in good condition at the end of the operation, whereas the patients of those who hurry the operation are usually exhausted.

The pillars and plica tonsillaris can be separated readily and painlessly from the tonsil by

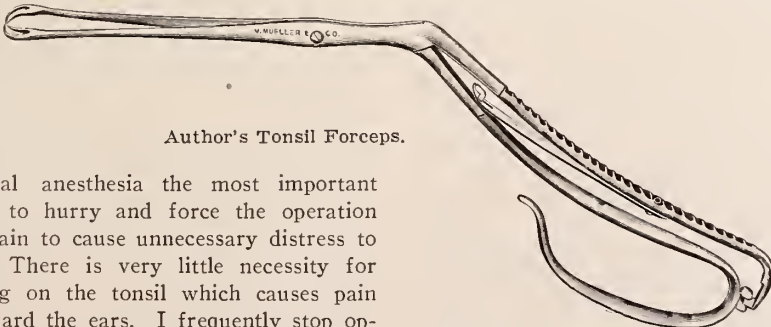


Author's Scissors for Dividing Lower Border of Tonsil.

The forceps used to seize the tonsil under local anesthesia should be light and very easily manipulated. I like Watson's forceps. Under general anesthesia where pulling the tonsil will not cause pain or if a snare is to be used, it is convenient to have a pair of forceps which can be locked and easily released and one which, while giving a good large handle to grasp, can readily have a snare passed over it without releasing the forceps. I have had such a pair made by V. Mueller & Co. The snare is first hooked over the lower curved end of the handle. It is often a great convenience to have two pair of forceps during an operation.

scissors. The upper border of the capsule of the tonsil being gently pulled downward with forceps should next be dissected free, and as the tonsil is gently turned downward into the throat the anterior and posterior borders are then readily separated. The last cuts in the inferior border are made easier if the posterior border is cut entirely free from above downward before separating the inferior border which lies below the level of the tongue.

If any large vessel is severed, it is seized by my hemostatic forceps which are provided at the end with very small sharp teeth. In these cases I find it difficult and sometimes impossible



Author's Tonsil Forceps.

Under local anesthesia the most important thing is not to hurry and force the operation which is certain to cause unnecessary distress to the patient. There is very little necessity for strong pulling on the tonsil which causes pain radiating toward the ears. I frequently stop operating, remove the forceps, and permit the patient to expectorate any blood or mucus. I do this after the first few snips with the scissors,

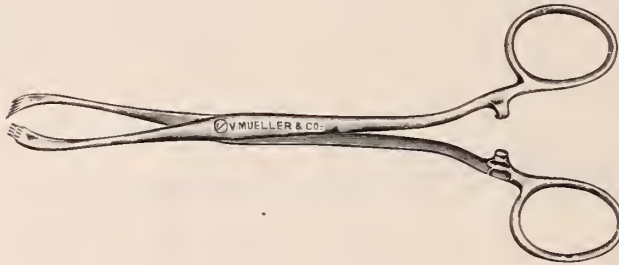
to seize the vessel in the moving pharyngeal muscles with an ordinary pair of hemostatic forceps. Mine would even catch the tissues in the

stretched palm of the hand. I first had an angular pair made, but realizing the importance of twisting the vessel I had later a straight pair made for the purpose.

secondary hemorrhage is possibly more likely to occur after the effect of the drugs has disappeared. Under local anesthesia nearly all hemorrhage will soon cease if the patient is turned



Author's Angular Hemostatic Forceps.



Author's Straight Hemostatic Forceps.

It is often necessary to pull the anterior pillar aside with some good retractor in order to see the vessel. A few minutes after the vessel has been seized a thrombus forms when the forceps can be twisted and gently removed. For the ordinary hemorrhage I have found constant pressure in the fossa by the finger wrapped with gauze of the greatest service. The gauze can also be pressed into the fossa by Pyncheon's presser or a gauze sponge can be forced into the fossa. I have not seen any special lasting advantages in the use of the various astringents recommended. Generally a minute's pressure is sufficient to stop the hemorrhage. Rarely some form of tonsil hemostat, as Pyncheon's, may be left in the mouth pressing on the tonsil for sometime. As Chevalier Jackson insists, it is advisable where hemorrhage persists to look for bleeding vessels and twist them. He claims this should be done in all cases to prevent secondary hemorrhage which may later result from the opening of partially retracted vessels as after the use of the snare. Hemorrhage which is often thought to be oozing is frequently due to free bleeding from a vessel covered by the anterior pillar or a clot. When adrenalin has been used in conjunction with a local anesthetic, there is often produced such local anemia that there is no bleeding at the time of the operation, but

so that the blood can readily run out of the mouth, and if he ceases coughing and clearing the throat. There is less hemorrhage after tonsillectomy than after tonsillotomy, as from an anatomic standpoint the vessels retract better and are best divided just outside the capsule. Heat applied to the extremities and cold locally, ice in the mouth, are of some service. Raising the head, cords on the extremities, drugs that lower blood pressure and other similar means may be advised for after hemorrhage when the surgeon is not present. If the patient is not to remain in a hospital for the first few days, which he should do, printed instructions regarding hemorrhage similar to the above, but going into details, should be given to him, the nurse or parents. This lessens or prevents panic. The patient should lie in a recumbent position with head raised, the bed and pillows being protected with a rubber sheet or a piece of table oil cloth and with his face pointing downward and to the side so that the blood may readily flow out of the mouth and not cause unnecessary coughing, clearing of the throat or respiratory embarrassment. There should be no physical exertion or efforts at conversation.

The arteries supplying the tonsil are chiefly the ascending palatine and tonsillar branches of the facial, the dorsalis linguae from the lingual,

the descending palatine branch from the internal maxillary, a branch from the small meningeal, as well as the pharyngeal branches of the ascending pharyngeal. As the vessels supplying the tonsil are very variable in source, usually from branches of the external carotid, but sometimes from branches of the internal carotid or even from the common carotid, and especially as there is a very free anastomosis of the vessels from both sides in this region, I can not understand why some writers so glibly recommend ligation of certain arteries as a sure means of checking tonsillar hemorrhage. Undoubtedly one who undertakes to do tonsillar surgery should understand how to ligate the supply vessels to this region, but when necessary it will not usually be found either simple or easy to do. The more important external relations of the tonsil should not be forgotten. The thin superior constrictor muscle of the pharynx and pharyngeal aponeurosis separate it from the trunk of the tonsillar, ascending pharyngeal, and ascending palatine arteries, and more posteriorly from the internal carotid which latter is sometimes in an anomalous position beside the tonsil. Anyone who does much tonsillar surgery, no matter what his technique may be, is certain to have an occasional case of severe hemorrhage. It is more likely to occur when the vessels are atheromatous, when the coagulability of the blood is below normal as in certain anemias, and in women during menstruation.

Small doses of morphine or codeine are ordered to be given every three or four hours if there is much pain. Attention to the bowels is insisted upon. The patient especially if from a distance is preferably kept in a hospital for a few days. If the operation is done at the office he can be taken home in a carriage a few hours afterward if in good condition. Too much exercise; e. g., walking, is likely to cause hemorrhage. Peroxide of hydrogen, 1 to 4 or other antiseptic may be used two or three times a day as a gargle or mouth wash by patients who are old enough, or a syringe may be used to clean the fossa. Once or twice a day an application to the tonsillar fossae of a 5 per cent. solution of carbolic acid in glycerine is cleansing and, after a momentary burning, grateful to the patient. In older children and adults too free granulations can be reduced by massage of the fossa by a probe wrapped with cotton. Applications of silver nitrate, 15 to 30 grains to the ounce of 15 per cent. glycerine in distilled water, is also useful for this purpose, or a revolving gauze pad may be used to break down granulations.

Afterwards it is sometimes necessary to free

a portion of one of the pillars from bands of scar tissue. Small retention clefts formed by the contraction of scars or by the formation of granulation tissues can be destroyed either by the removal of portions of the scar tissue or granulation tissue surrounding it, or by the proper use of the electrocautery.

DISCUSSION.

W. E. Murphy, Cincinnati: The subject presented by Dr. Stevenson for discussion I consider one of very great importance, not only to the men doing this special line of work, but also the general physician who does what is popularly known as "removing the tonsils," but which is practically only a slicing off of the superficial layers of the glands.

I can add but little to the doctor's paper, aside from emphasizing certain points which he has mentioned. The operation of tonsillotomy as practiced with the guillotine I believe to be a make-shift operation which will and should be relegated to the past. The operation, as described by the essayist; that is, complete removal of the tonsils, is the only one which will give us results, that will allow us to keep abreast of the advancing lines of surgery in other branches.

As to anesthetics and their use, ether is the safest, but, unfortunately, it has some drawbacks. The large amount of secretion which is formed by the administration of ether can be controlled to a certain extent by the use of morphine, of atropine, or by swabbing with adrenalin, but in this operation we have considerable blood, and the addition of the mucus makes it very difficult for us to see our field, thus making the operation very difficult. Then these patients take an anesthetic badly, as a rule, the breathing especially being bad. The ether affects the respiratory centers, which is a factor to be considered, because it makes the operation that much more difficult, and if the patient comes out from under the anesthetic, it takes longer to get him back. But aside from that, there is no question that ether is the safest anesthetic to use.

The instruments the doctor has mentioned are an addition, as he says. Probably no operation that has been done recently can boast of as many different kinds of instruments for work. The knife which I use (made by the Western Surgical Supply Co.) has a smaller blade than the one the doctor uses. It is very much smaller. The handle is about the same, except that it is a straight handle. With this you can dissect the pillars from the tonsil.

One point the doctor did not make emphatic enough, and that is getting the adhesions loose from the apex of the tonsil. The tonsil extends up above the pillar quite a distance, and unless we get the adhesions loose at this point, we cannot get back of the tonsil. We must get the adhesions all loose and then dissect up and get the apex of the tonsil. We must remove the apex, because I believe that is responsible for a great many affections of the ear. My plan is to dissect up to the apex with a dissector which is used for sub-mucous dissection of the septum—Dr. Ballinger's dissector with a flat side. From that on I use my finger. I can pass that finger

up over the apex, then back of the tonsil and down to the lower end on either side of the tonsil. The adhesions are not so firm but what they can be torn loose, but sometimes they are firm along the pillars back of the edge, so it is frequently necessary to use scissors or knife to get them loose.

Then we have the dissection of the lower part, and my plan is to use scissors or a snare, as the doctor has described. After we have the tonsil removed, if there are any shreds left, we can use the tonsil punch to remove them; but that is not necessary if you get the tonsil started right. In dissecting along the anterior pillar I do not believe it is necessary to remove much of the pillar. The mucous membrane extends over this quite a distance, and if we cut through the mucous membrane I do not believe the pillar will give us trouble afterwards.

As to hemorrhage after tonsillectomy, I do not believe we will have as much trouble as after tonsillotomy. There are exceptions, where we have to tie, but they are very rare.

The doctor has mentioned in his paper the after treatment, which I will take the liberty of mentioning, because it is of some importance, the treating of the fossa after the removal of the tonsil. In some cases the granular tissue will form, and if we neglect to destroy it, there will be pockets formed which will give the patient some trouble. This can be eliminated by swabbing or massaging the fossa with a cotton-wrapped probe dipped in iodine and glycerine. Nitrate of silver is also used.

I think the question of the complete removal of the tonsil is one of a great deal of interest to us, because it has no doubt been neglected in the past.

S. H. Large, Cleveland: I just wish to bring to your minds the dangers of adrenalin chloride.

One of our academy members reported a case in which he had injected a few drops of one to one thousand adrenalin solution into an aural polypus. The patient became blanched and died on the table.

In doing some experimenting on dogs to find out the action of general anesthetics on respiration and blood pressure, we were able to demonstrate the powerful influence that adrenalin has, in increasing blood pressure.

The manometer and artificial bellows, being attached, we were able to demonstrate when the dog was absolutely dead.

We had one that had been dead for ten minutes, and by injecting intravenously 50 cc. of adrenalin chloride solution of one to fifty thousand, we were able to bring the dog back to life.

For hypodermic injections, I use it not stronger than one to twenty thousand, and I find that your results are just as good, as if you use one to one thousand.

In reference to hemorrhage I have had cases where there was general oozing, which the tonsil clamp would not stop; stitching the anterior and posterior pillars together completely controlled it.

For a general anesthetic I prefer the combination of nitrous oxide and oxygen.

Chas. Lukens, Toledo: I wish to second what Dr. Large said about adrenalin chloride. Only a few months ago in Toledo one of our most

prominent business men was prepared for a nasal operation. They started a general anaesthetic and injected adrenalin into the offending nasal tissue. The patient blanched and his heart stopped before anyone could do anything with him. The papers got hold of it and gave the anesthetic credit for his death, but it was undoubtedly caused by the adrenalin.

H. D. Rinehart, Dayton: You know Dr. Stevenson has a mania for inventing instruments. I am glad he has, because he makes some good ones. It is my opinion that each of us can work better with the instruments with which we are familiar and are in the habit of using. I also believe that the surgeon who works with the fewest instruments and knows well how to handle those he does use, can do the best work, all things be equal. The man who uses a large array of instruments is handicapped.

I like a knife better, probably because I have been used to it. In the first place, the tonsil that is to be removed should be taken out clean—make a tonsillectomy clean. I never use a tonsil punch. In preparing the tonsil I do not go to the trouble to put cocaine in the nose. It may be a good thing, but I cleanse the tonsil as well as I can; then use cocaine 6 per cent. solution. Dip the wet cotton in powdered cocaine and pass it over all the portions of the anterior pillar, the posterior pillar and superior angle. As soon as I have the mucous surface anesthetized, I inject one-third of a grain of cocaine with about one one-hundred and fiftieth of grain adrenalin C. P., and put my needle in just one place. I find this is better than putting it in a half dozen places. I make one deep puncture, inject my solution, then I use Leland's improved angular knife, to which I am accustomed. I can get it under the tonsillar mucous membrane beneath the pillars and come out with the probe point of knife and peel off of the tonsil. This done from anterior, and posterior and superior part of tonsil, therefore I do not have so much scar tissue. Then after I have it loosened, I put my tonsil snare over loosened tonsil, after which, with my other hand armed with a good tonsil fixation forceps, I take hold of the tonsil and draw it upward slightly and remove it by closing my snare. I use nothing but the snare and Leland improved knife and tonsil fixation forceps. I close on the snare gradually, taking about twenty seconds to close the snare. The whole operation can usually be made in one and a half minutes to four minutes. I do not like to use a general anesthetic if I can help it, except in young children. I have taken out both tonsils in a child seven years old under local anesthetic and had no trouble. I have taken them out at all ages from that up to sixty-five. Have had no hemorrhage within the last two years and do not expect any. A dram is about all the blood you need to lose. Once in awhile three or four drams.

I have never had a tonsil forceps that satisfied me. I have two which I use, but neither are very satisfactory.

Wm. Mithoefer, Cincinnati: I will take the liberty of showing some tonsils removed by a very simple method. The greater part of the enucleation was done with the index finger. The operation is performed in the following way:

The patient is given anesthetic, and the anterior pillar of the fauces where it joins the tonsil above is detached with a dull instrument. The finger is now inserted, the palmar surface towards the anterior pillar and the tonsil separated. As soon as a firm hold is gotten, the finger is carried behind the tonsil into the supra-tonsillar fossa, and the enucleation is continued by pushing the tonsil towards the lower pole. The lower portion may be firmly adherent, and require the use of a snare.

In some cases the plica tonsillaris extends over the greater portion of the tonsil. In these cases I make an incision into the plica as a primary step before inserting the finger. I have done this operation for the past year, and have operated on about seventy-five cases. In three of my earlier cases I was not successful, but in the others a complete enucleation was made.

Dr. Stevenson (closes discussion): Under a general anesthetic the finger is one of the most useful instruments, but I never employ it under a local anesthetic. Adrenalin chloride should not be used too freely, as I think in addition to objections already mentioned, there is greater like-

lihood of secondary hemorrhage. I rarely use it with a general anesthetic. By its use operations may be rendered nearly or wholly bloodless, but without it there is usually considerable immediate hemorrhage which, however, ordinarily soon ceases. Simplicity in instruments is desirable, but who would argue that the latest farm harvesters should be discarded for the sickle because the latter is simpler. Instruments are chiefly dictated by necessity. One pair of these scissors is similar to Pince's and various other instruments, except that the handles are round, do not come in contact and the lock is so made that the patient's cheek, tongue and lips will not be pinched while operating on the tonsils. Any one of these pairs of scissors could be used alone, but in cutting certain parts one pair can be easily used when the others would prove unhandy. Of the two pairs of scissors, one curved on the flat, the other on the edge, it is unnecessary to reason as to which instrument to use. Simply cut with one pair until it becomes unhandy to use it, the other pair being curved opposite can then always be used conveniently. There is no selection at all. Whenever one is unhandy, use the other.

STATE BOARD NEWS

APPLICATION FOR REVOCATION.

It is said that Dr. J. R. Barker was found guilty and fined \$400.00 and costs by the Probate Court of Ashtabula county for having prescribed intoxicating liquors for beverage purposes.

Two druggists were also found guilty and fined for filling these prescriptions. The fine in each of the latter cases was \$150.00.

An application for the revocation of the certificate of J. R. Barker based upon the findings of the court has been filed with the Board.

OPTOMETRIST IN TROUBLE.

Isaac Berman, of Pittsburg, claiming to be an eye specialist from Columbus, and to have a private hospital located there, was arrested in Circleville on August 6 and charged with illegal practice of medicine. His partner learned that the police of Circleville were after him also and made good his escape.

Berman examined the eyes of a farmer in Pickaway county who had been operated upon for cataract, and told him that the cataract was returning, then offered to cure him with medicine and glasses for \$52.00, finally reducing the fee to \$30.00. The fee was paid and Berman promised to send some one the next day to paint the old

man's barn, and also to paint his picture in one corner of it. When the investigation was made, the farmer thought the officers had come to do the painting.

Berman agreed to plead guilty, pay the minimum fine, receive a sentence of 30 days in jail, and return the money to all parties known to have been duped, provided the jail sentence was suspended. Upon his promise to leave the state Mayor Duffy accepted this proposition.

Dr. Courtright, of Circleville, and the police authorities are to be congratulated upon the results of their efforts and deserve all credit for the prosecution.

CONVICTION IN CLEVELAND.

On July 19th Jas. Backy, of Cleveland, was arrested, charged with illegal practice of medicine. On August 19th he was convicted before Judge Emanuel Lavine, who fined him \$500.00 and costs, and sentenced him to 30 days imprisonment. The fine was assessed, but the imprisonment was suspended upon the promise of the defendant to return to his home in Hungary.

All credit is due to Dr. Arthur P. Hammond, who has secured several convictions in the Cleveland courts.

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MEDICAL DEFENSE.

We desire to draw attention to the communication in this number of the Journal of Willard J. Stone, of Toledo, in regard to the Medical Defense Plan in connection with medical societies. Knowing that a Defense League had been organized in Toledo, Dr. Stone was asked to write of the possibilities of the plan on a larger scale. As he states the plan has appeared, after an experience of three years in Toledo, to be not only feasible, but gratifyingly successful. If this is true on a small scale, it would certainly be even more so on a larger one. The fundamental idea of all insurance is the division of the individual loss among a large number of contributors; the greater the number of the latter, the less the share of the loss for each. The various Medical Defense associations incorporated for profit have shown that the plan is commercially profitable as a small annual premium, even to the extent of the assuming liability for adverse judgments. If the latter obligation is not assumed and the expensive organization for getting business eliminated, the actual cost for complete protection would be reduced to a nominal sum per individual on a scale equal to our present state association membership.

There is little necessity for assuming liability for judgment as experience has shown that the per cent verdicts for damages is very small, and even in such the verdict being frequently reversed on appeal. As Dr. Stone says most mal-practice suits are not made in good faith, but rather, as a species of black-mail, in the hope that the physician in the case will prefer to settle for a small proportion of the amount sued for, allow himself to be mulcted, rather than have to stand the expense and notoriety of fighting the unjust demands.

The commercial defense companies have demonstrated that the policy of vigorous defense in every case has had a most beneficial effect. A large per cent of cases entered for suit never come to trial, the plaintiff abandoning their cases on finding that a hard fight will be made. Another goodly number of people are deterred from starting a suit if they know that the physician in the case has protection of this sort. As an illustration, we know of an instance in which there were two surgeons in attendance upon an individual, who thought he had reason for dissatisfaction. He contemplated a mal-practice suit against both, but on finding that one surgeon had liability insurance, he dropped the case against him

and sued the other alone, who finally settled the claim out of court.

In the few cases actually brought to trial and in which adverse verdicts are rendered the amount is always greatly reduced, and many are reversed on appeal, so that the number of instances in which these suits are really successful from the plaintiff's point of view, is really very small indeed.

This field seems to us pre-eminently to fall within the scope of activity of the State Association. It would react in favor of the Association, increasing its membership very greatly, and would also be a great and practical benefit of organization.

Now is the time to discuss this question, and THE JOURNAL will be glad to receive and publish the opinions of members on the pro and con of the subject.

FOUR THOUSAND CONSUMPTIVES STARVE YEARLY.

Cruel and inhuman practices are alleged in a statement given out by the National Association for the Study and Prevention of Tuberculosis against the eastern doctors who persist in sending dying cases of consumption to the Southwest.

"Fully 7,180 persons hopelessly diseased with tuberculosis annually come to die in the states of California, Arizona, New Mexico, Texas and Colorado, most of them by order of their physicians." The statement, which is based upon the testimony of well-known experts, and all available statistics, shows that at least 50 per cent of those who go to the Southwest every year for their health are so far advanced in their disease, that they cannot hope for a cure in any climate, under any circumstances. More than this, at least 60 per cent of these advanced cases are so poor that they have not sufficient means to provide for the proper necessities of life, which means that 4,315 consumptives are either starved to death, or forced to accept charitable relief every year.

It is not an uncommon thing, the National Association declares, for whole families, who can hardly eke out a living in the East, to migrate to the West in the hope of saving the life of some member of the family. In most instances, the abject poverty of such cases forces them to beg, or to live on a very low level. Often consumptives who cannot afford the proper traveling accommodations are found dead on the trains before reaching their destination. The resources of almost every charitable organization in the Southwest are drained every year to care for cases which would be self-supporting in their Eastern homes.

It costs, on an average, at least \$50 per month for the support of a consumptive in the Southwest, including some medical attention. The National Association strongly urges no one to go to this section who has not sufficient funds to care for himself at least one year, in addition to what his family might require of him during this time. It is also urged that no persons who are far advanced with tuberculosis go to so distant a climate.

Consumption can be cured, or arrested in any section of the United States, and the percentage of cures in the East and the West is nearly the same. Any physician, therefore, who sends a person to the Southwest without sufficient funds, or in an advanced or dying state of the disease, is guilty of cruelty to his patient. Renewed efforts are being made to stop this practice, and to encourage the building of small local hospitals in every city and town of the country. Attempts are also being made in Southern California and in Texas to exclude indigent consumptives or to send them back to the East.

That this is a wide-spread evil cannot be denied. It is not fair to our Southern and Western states, nor is it fair to the patients.

Dr. Knopf in his recent work on tuberculosis discusses this subject very clearly. Under no circumstances should a tubercu-

lous patient be allowed to go away to these resorts unless financially able to provide for himself for several months at least should he be incapacitated. Many go with the idea of finding some light occupation to support them. There are too many already there looking for just such opportunities.

Given proper surroundings, a change of climate is an admirable thing for the tuberculous, but the climate is not everything; if the change involves privation, worry, poor sleeping accommodations and poor food, the patient is much better off at home.

BENZOATE OF SODA ENDORSED.

The endorsement of benzoate of soda by the Association of State and National Food and Drug Departments last month must be regarded as a set back to the cause of pure food for the people.

The resolution is as follows:

"That this Association indorses the report of the Reference Board of Consulting Scientific experts appointed by Secretary of Agriculture Wilson, at the direction of President Roosevelt, upon the use of benzoate of soda in food products."

It was adopted after the rather close vote of 57 in the affirmative to 42 in the negative.

We cannot see how the so-called testing of the action of benzoate of soda can fairly give rise to the sweeping generalities that have drawn therefrom. Because the giving of small quantities of benzoate of soda daily to eighteen young men in perfect health on a rich and varied diet for periods of two months and one month respectively, resulted in no demonstrable disturbance, the Reference Board would seem to declare that the use of this chemical must be and is entirely innocuous, even for those whose stomachs may be weakened by local disease or general ill health, or those compelled to live on a poor diet, perhaps made up entirely of chemically treated foods, or those in the extremes of life, whose digestion is notably sensitive. But time will tell. We will now doubtless have thrust upon us the oppor-

tunity for observing the action of this drug on a large scale and under greatly more varied conditions, and therefore it behooves the medical profession to keep a careful watch out for signs of any ill effects, so that at some future time we may positively and authoritatively assert what we now honestly believe.

The direct harm from the ingestion of the substance, however, is not the worst feature of the use of this or any chemical preservative. It is asserted that improper materials, spoiled food stuffs, etc., treated with benzoate of soda so as to conceal the natural evidences of decay. This is denied by the champions of the vested interests, but positively asserted by those working for purity of foods, who style the benzoated foods as "medicated garbage."

C. A. L. Reed takes this position and rendered yeoman service at the recent meeting.

The question is not settled yet by any means. The people must be educated by facts, not by experiments under more or less artificial conditions. It is our part in the next few years to obtain the necessary facts so that in due time we may prove our case and win the victory.

AMERICAN PROCTOLOGIC SOCIETY

Eleventh Annual Meeting, Held at Atlantic City, N. J., June 7 and 8, 1909.

The President, Dr. George B. Evans of Dayton, Ohio, in the Chair.

Officers elected for the ensuing year:

President, Dwight H. Murray, M. D., Syracuse, N. Y.

Vice President, T. Chittenden Hill, M. D., Boston, Mass.

Secretary-Treasurer, Lewis H. Adler, Jr., M. D., Philadelphia, Pa.

EXECUTIVE COUNCIL.

George B. Evans, M. D., Dayton, Ohio, Chairman.
Dwight H. Murray, M. D., Syracuse, N. Y.
Louis J. Hirschman, M. D., Detroit, Mich.
Lewis H. Adler, Jr., M. D., Philadelphia, Pa.

The place of meeting for 1910 is St. Louis, Mo. Headquarters: Planters Hotel, June 6 and 7, 1910.

The following were elected fellows of the society: Dr. Charles S. Gilman, 419 Boylston St., Boston, Mass.; Dr. Donley C. Hawley, Burlington, Vt., and Dr. Frank C. Yeomans, 19 E. 45th St., New York City, N. Y.

The following is an abstract of the principal papers read:

PRESIDENT'S ADDRESS—"PROGRESS IN PROCTOLOGY."

The President, George B. Evans, A. M., M. D., Dayton, Ohio.

Who stated that not many years since, the creation of proctology as a specialty was frowned upon; for an indefinite period what was known of and what was done for diseases of the rectum was largely empiric, and not due to special knowledge or scientific study.

A few of us, at least, can remember when it was the rule among general practitioners to make no special effort to determine the pathology of diseases of the rectum; in fact, it was believed unbecoming the dignity of a high-classed, high-toned medical gentleman to so lightly esteem modesty as to ask for the privilege of seeking the naked truth. Without attempting to make a diagnosis, opium and lead wash, with catharsis, was deemed a sufficient treatment for any case. Little was taught in medical colleges of these diseases, for little was known and no special desire to learn much concerning them seemed to exist. But, fortunately, in the natural evolution of this specialty, this ignorance and indifference in the main, has been eliminated, and this field of work has assumed that of an accredited, and justifiable specialty. No longer do we have to contend with the non-recognition of serious pathology, because of interposed modesty, ignorance and criminal indifference. A knowledge of the importance of being able to diagnose and treat intelligently diseases of the rectum is now considered essential for every general practitioner, and all this as a result of the creation of proctology by men who have made special effort to develop this field of work. The credit is due to such men as Adler, Allingham, Ball, Gripps, Edwards, Earle, Gant, Martin, Pennington, Kelsey, Matthews and others. To them are we indebted for progressive proctology.

As a matter of course, our pathology of this area is of necessity a modern pathology, and our knowledge of valves, varicosities, neoplasms, ulcerations and suppurations, are not based on hypothetical ideas of a quarter of a century since, but instead on the rather exact revelations of laboratory findings. The import of the presence of staphylococci, gonococci, colon bacilli and tubercle bacilli, is equally as much importance to the rectal surgeon, as is the microscopical proof of the malignancy or benignity of a bit of tissue. With what greater assurance the proctologist approaches examinations of rectal diseases than did the physician of some years since. With a wide open field, if necessary, the aid of anesthesia, the proctoscope and the laboratory, there is usually not much difficulty in making a diagnosis,—a diagnosis inseparably linked with its dependents,—treatment and prognosis. Under the influence of progressive proctologic work, ignorance and indifference to the recognition and treatment of rectal diseases is rapidly disappearing from the average medical man, as well as from the average layman. As a result of which the sum total of human suffering is immeasurably lessened, and individual existence is not so frequently abridged. The victims of rectal diseases are to be congratulated that this

branch of science, or pseudo-science, has sufficiently advanced, that it now occupies the serious attention of the most progressive and intelligent men. The Lister methods of that day have been so changed and improved that they now seem very crude. The value of thorough cleanliness, asepsis, and the antiseptic influence of certain drugs, is of immeasurable value. It is now understood that the recto-anal area can be placed in a surgically clean condition, and that there need be no fear following operative interference. In not a few instances, it obtains that relief which is dependent on rectal surgery, when the subjects are unfit for narcosis produced from a general anesthetic, in cases of cardiac, pulmonic or nephritic disease, making it hazardous to use general anesthesia. Sometimes it would seem that this danger of the uses of an anesthetic is too lightly thought of, and consequently, the mortality rate is increased. Local anesthesia, under cocaine infiltration, for the most part, is satisfactory, and is a great convenience to the operator and a life-saving narcosis in many instances.

The palliative treatment of hemorrhoids by proctologists is largely a matter of enforcement, viz., where they are not permitted the opportunity to relieve by radical methods. The operative methods of removing hemorrhoids are so well understood, simple and effective, that it is foolish to attempt to relieve them by drugs or palliative measures.

The Allingham, or ligature method, when correctly and carefully performed, is generally applicable, but is not so free from pain and so quickly convalesced from as the clamp and cautery method. Many regard the last mentioned method as the one to be preferred. I believe, however, that the enucleation method approaches nearest to the ideal in results, and that the retention of the plug is not so painful as some would have us believe.

Proctoscopic examination is of importance, and is a distinct advance in rectal work. It is of great assistance in determining disease beyond discovery by ordinary methods. It is of distinct service in diagnosis, and of great value in aiding treatment in not a few conditions.

There is more hope for the ultimate cure of tubercular conditions; our better understanding of what environment means to these people will go far toward helping them to recovery, and there is not much reason for a delayed recognition of the condition, which is of paramount importance.

I believe there is possibly a better understanding of syphilitic conditions, ulcerations, infiltrations and strictures, but the eternal dependence on anti-syphilitic treatment to resolve hyperplastic tissue is not so conspicuous, and progressive workers in this field realize that incision and excision are often necessary.

Concerning malignant and benign growths, the surgical rules that apply in other anatomical regions apply here. Early discovery and early removal is the only hope, as we all know, in malignant conditions, and as an advance, the removal of cancerous growths not within easy reach from below may be dealt with from above, or suprapubically, and just here it may not be inopportune to remark that it is to be believed that ere long it will be realized by the average physician that the removal of the rectum per se, is not as disas-

trous a matter as it is sometimes made to appear, especially since it is known that muscular transplantation will preserve more or less perfectly the function of the sphincters. The development of the technic essential to produce sphincteric power, will relieve rectal extirpation of one of its most unpleasant features and render less hesitant many sufferers who should have the benefit of the operation.

Another matter of progressive interest is that colonic or rectal ptosis is amenable to intra-pelvic or intra-abdominal fixation, bringing relief that in some instances cannot be hoped for by other method of interference.

After all, the most encouraging sign is that the profession recognizes the fact that proctologists have a legitimate right to exist as specialists, and that diseases in the ano-rectal region deserves the same consideration as elsewhere. With the elimination of indifference, estheticism, modesty, the examination and diagnosis, we can but hope for greater progress and more relief to suffering humanity.

Gentlemen, when I consider the personnel of this Association, I am quite confident of the perpetuity of proctology as a distinct entity and am equally sure the progression in this special field of work will be in keeping with that in other specialties.

"A REVIEW OF PROCTOLOGIC LITERATURE FROM MAY, 1908, TO MAY, 1909."

By Samuel T. Earle, M. D., Baltimore, Md.

Among the interesting conditions referred to in the review by the author, were the following: "Congenital Idiopathic Dilatation of the Colon" (Hirschprung's Disease). In Dr. Finley's report of his case he reviewed the literature of the subject to January 1, 1908, and collected some two hundred and six cases, after which he stated that while to Hirschprung belongs the credit of having first called attention to this disease, a number of cases had been found in the literature antedating his classical description. In the article Dr. Finley discussed the various hypothesis as to the etiology of the disease and some ten theories, which have been suggested from time to time, as the causation of the malady, including that of hyper-nutrition, which was the author's principal theory. His conclusions as to the etiology of the disease were that no one theory apparently explained every case; that each one explains some.

The symptomatology was described and a complete picture of the disease given with a list of a series of cases discussed in the Johns Hopkins Hospital,—eleven in all. Regarding the treatment, the author concludes that no one plan seems applicable to all cases and suggests the method employed in his own case as perhaps the one most applicable to the large proportion of cases, to wit,—a preliminary enterostomy; then a colo-colostomy some months subsequently; finally a complete excision of the affected portion. This artificial anus is left open until after the success of the preceding steps are assured when it should be closed under cocaine anesthesia.

Dr. Earle in his report alluded to another case of "*Idiopathic Dilatation of the Rectum and Colon as far as the Hepatic Flexure,*" which was reported by H. Morely Fletcher, M. D., and H.

Betham Robinson, M. S. (Clinical Society's Transactions, Vol. XL, p. 80.)

Another case of interest reported was that of a "*Sarcoma of the Rectum in a Boy*" aged ten years, by Cecil Rountree (Proceedings Royal Society of Medicine, February, 1908.) The pathological examination showed the tumor to be a mixed cell sarcoma. Of five hundred and ninety-six cases analyzed in the Cancer Research Laboratory, of the Middlesex Hospital Reports, there were only six cases under thirty years of age,—the age of the youngest, a boy of sixteen years, who had a sarcoma of the rectum. There are likely to be many metastasis in sarcoma of the rectum. This malady is rare at any age.

Attention was called to the method of Dr. Dudley Roberts of Brooklyn, N. Y. (The Medical Record, Vol. 72, p. 985), for "*Gradual Painless Dilatation of the Anal Canal by Dilatable Rubber Bags,*" which appealed to Dr. Earle forcibly as a very satisfactory means of accomplishing the purpose designed.

Attention was called to the article of Dr. Charles O. Files of Portland, Maine (New York Medical Journal, Vol. 87, p. 1154), in which he considers that there are two important factors that should be studied in connection with the "*Treatment of Pruritus Ani.*" These are an analysis of the contents of the rectum and the physical condition and mechanical efficiency of the sphincter ani muscles,—external and internal.

The normal feces contains about 73% of water. This water holds in solution various volatile, fatty acids, and probably other irritating excrementitious substances. During the retention of the feces in the rectum a considerable portion of the water disappears. In prolonged constipation, the feces become hard and dry some of the fluid passes by osmosis into the cellular tissue about the anus and thence to the skin. The liquid feces are very often irritating to the mucous membrane of the anus, and causes an intense burning sensation. When this acrid solution is absorbed into the cellular tissue it causes an irritation of the skin, and we call that irritation, pruritus ani.

The sphincter muscle as long as it remains in a normal condition prevents the passage of any appreciable amount of fluid through it. When, however, the action of the sphincter is made somewhat irregular by the pressure of a hemorrhoidal condition some of the fluid leaks through the anus and causes pruritus by direct contact. The skin about the anus is often found to be moist in persons having hemorrhoids.

Dr. F. W. Dudley of Manila, P. I. (Journal of American Medical Association, Vol. 51, p. 991), reports a "*New Bloodless Method of Amputating the Anus and the Rectum.*" A description of the same being given.

Dr. W. Ernest Miles (London Lancet, 1908, Vol. 2, p. 1812), reviews the "*Perineal Excision for Carcinoma of the Rectum, and of the Pelvic Colon,*" and states that so far as he has been able to gather from the literature on the subject, the technic of previous operations seems to have failed in one important respect, namely, the complete eradication of the zone of upward spread of cancer from the rectum, whereby the chance of recurrence of the disease above the field of operation can be distinguished, if not entirely obviated. In his personal experience of fifty-seven such

peritoneal operations, he found that recurrences took place in periods from six months to three years in fifty-four instances.

In order to ascertain the cause of his failures he made a post-mortem examination of such of his patients who died and found that recurrence appeared in situations that were beyond the scope of removal from the peritoneum, namely, (a) the pelvic peritoneum; (b) the pelvic mesocolon; and (c) the lymph nodes situated over the bifurcation of the left common iliac artery. He considers that this area constitutes the zone of the upward spread of cancer of the rectum, the removal of which is just as imperative, as is the thorough clearance of the axilla in cases of cancer of the breast, if freedom from recurrence is to be obtained.

The appreciation of this important fact, induced him two years ago, to abandon the perineal methods of excision of the rectum and to substitute therefore, an abdominal method, comparable to those methods of performing abdominal hysterectomy known as the Wertheim and the Kronig-Wertheim. He then gives the technic of his operation in full, and has formulated what he considers certain essentials, which must be strictly adhered to, if satisfactory results are to be obtained, namely: (1) that an abdominal anus is a necessity; (2) that the whole of the pelvic colon, with the exception of the part from which the colostomy is made, must be removed because its blood supply is contained in the zone of the upward spread; (3) that the whole of the pelvic mesocolon below the point where it crosses the common iliac artery, together with a strip of peritoneum, at least an inch wide on either side of it, must be cleared away; (4) that the group of lymph nodes situated over the bifurcation of the common iliac artery are in all instances to be removed; and lastly (5) that the peritoneal portion of the operation should be carried out as widely as possible, so that the lateral and downward zones of spread may be effectively extirpated.

B. G. A. Moynihan, Leeds, Eng., (Surgery, Gynecology and Obstetrics, 1908, Vol. 6, p. 463), calls special attention to the "*Frequent Recurrences After Removal of Carcinoma from the Upper Rectum and Sigmoid*," and also for the necessity of inguinal colostomy on account of the sacrifice of a large portion of the bowel in perhaps a large majority of cases.

"TREATMENT OF PRURITUS ANI, WITH A CONSIDERATION OF ITS PATHOLOGY AND ETIOLOGY."

By William M. Beach, A. M., M. D., of Pittsburgh, Pa.

The following conclusions were drawn by the writer:

1. That pruritus ani occurs in mild and severe forms; mostly in middle life; the mild type with simple pruritus, the severe type with marked eczema and skin changes.

2. Certain aberrations in general metabolism, or in adjacent structures are simply incidental and should be considered as complications.

3. Intra-rectal growths, as hemorrhoids, adenomas, etc., or the presence of parasites are contributory.

4. The distinct pathogenesis of pruritus ani con-

sists of single or multiple burrowings from the anal pockets, emitting a serous or sero-purulent substance, which sinus may be complete or blind and is always accompanied by proctitis, and frequently by cryptitis, and small ulcers at the ano-rectal line.

5. These sinuses when complete are the sequelæ to an abscess history, but the origin of the blind recesses is in doubt, and yet it is not unlikely due to an infection by the colon bacillus.

6. The treatment is surgical for the purpose of obliterating the sinuses, correcting a rigid sphincter when necessary, and curing the proctitis and ulceration.

7. Gastro-intestinal and general metabolic disturbances must be met by rational measures.

"PRURITUS ANI, ITS ETIOLOGY AND TREATMENT."

T. Chittenden Hill, M. D., of Boston, Mass., said that he was convinced that pruritus ani was practically always caused by some local lesions of the pelvic colon or rectum, which produced an unnatural moisture about the anal region.

He said the most common sources of irritation, in the order of their frequency, were as follows: (1) Superficial ulcerations and abrasions of the anal canal. This lesion he found in about 75% of all cases and attributed the frequency of its occurrence to the method of fusion of the proctodeum with the blind end of the bowel. (2) Rectitis and sigmoiditis, which are the sequelæ of habitual constipation, often bring about a pruritus, since the passage of flatus allows a small quantity of mucus to escape. (3) Hypertrophied anal papillæ and inflammation of the crypts of Morgagni are more often the cause of pruritus ani than is generally admitted. (4) Small polyps of the anal canal, protruding internal piles, prolapse of the rectum and anal fissure, do occasionally produce itching about the anus, but it is exceptional to find them the sole cause of chronic pruritus ani.

He stated that in order to attain permanent results, it was essential that the treatment be directed to the removal of the exciting causes. At the same time the skin in the immediate vicinity of the anus should receive appropriate treatment since it is nearly always in a state of acute inflammation from scratching or so much infiltrated and thickened as to require stimulating applications,—nitrate of silver and ointments, in order to bring about a return of a normal epidermis.

"BALL'S OPERATION IN THE TREATMENT OF CASES OF PRURITUS ANI, WITH REPORT OF A CASE IN WHICH NECROSIS OF THE FLAP OCCURRED."

By Louis J. Krouse, M. D., of Cincinnati, Ohio.

The case reported was that of a severe intractable case of pruritus ani in a man well advanced in years who underwent the above operation for pruritus with the result of having the anal flap necrose. He went into the pathology as to the cause of the necrosis and came to the conclusion that the trouble lay in the poor supply of blood to the anal flap. He claimed that there is no anastomosis between the blood-vessels from within the anus and those of the skin. The writer called attention to the fact that Sir Charles Ball's

operation has recently been modified so as to prevent sloughing of the anal flap.

A new method of operating was proposed by the author which is somewhat different from that of Sir Charles Ball and of that of Dr. Thomas Charles Martin, and consists: First, in doing away with the elliptical incision which cuts off the greater part of the circulation from the diseased area; and secondly, in making six to eight linear incisions through the skin into the subcutaneous connective tissue. These linear incisions, beginning at a point outside of the point of irritation, follow the course of the radii of a circle whose center is the anal canal. The skin lying between the adjacent radii are then undercut until the whole affected area is undermined. Should the dissection be difficult and more room be needed, every alternate flap could then be loosened at the anal margin and dissected outwards toward the periphery. After all the adhesions are loosened and the bleeding has been stopped, the parts are again replaced and sutured.

The advantages of this operation over the original one of Ball, lie mainly in the better nourishment of the flap. The blood must come from the circumference and must radiate towards the anal canal.

"A CONSIDERATION OF THE PROPHYLAXIS AND TREATMENT OF CICATRICAL RECTAL STRICTURE."

By Alois B. Graham, A. M., M. D., Indianapolis, Indiana.

Opinions were based upon the results obtained in the treatment of fifty-five cases. He stated that prophylaxis implies a careful rectal examination; a careful rectal examination implies an early diagnosis; an early diagnosis implies correct treatment, and correct treatment implies the prevention of a stricture.

When cicatricial rectal stricture is diagnosed, surgical intervention is indicated. In cases where there is no danger of infection, excision should be the choice of all the surgical measures at our command. If successful, its results are ideal because of the fact that it effects a cure by the complete removal of the stricture. In cases where it is not safe to practice the excision method—and there are many such cases,—complete posterior proctotomy or colostomy, either alone or combined, should be performed. While neither of these surgical measures have effected an authentic cure, yet they undoubtedly can and have effected a symptomatic cure. Gradual dilatation should be employed only in cases of small annular stricture. The excision method needs no defense as its results are all that could be desired. As for the other surgical methods, the writer was not at all pessimistic as to the results which can be obtained if they are followed by correct and systematic after treatment.

"THE USE OF SPINAL ANESTHESIA IN RECTAL SURGERY."

By Collier F. Martin, M. D., Philadelphia, Pa.

Who reported eighty-seven cases in which tropacocain and stovaine were employed. The technic was given in detail. The method is not recommended where the hips of the patient have to be elevated.

Of the 87 cases, 57 were either frankly tubercular or the condition was suspected, 16 were alcoholics, 4 had anemia with from 35% to 60% of hemoglobin, 2 had sepsis, 2 cachexia, 2 were suffering from general debility and old age, 3 had cardiac complications, and 1 refused to take ether.

The conditions operated upon were as follows: Abscess and fistulæ 54, hemorrhoids 21, rectal stricture 2, sacral sinus 1, fissure with fistula 2, gangrenous cellulitis 2, anal condylomata 2, rectal carcinoma (perineal excision) 2, and Ball's operation for pruritus ani 1.

The only complications observed were headache eighteen times, coming on from one to three days after operation. Only three cases had severe headache lasting over one or two days. A few cases complained of some stiffness of the back of the neck and shoulders. One patient developed a temporary oculo-motor palsy which recovered under treatment. In two cases spinal fluid was not obtained because of the difficulty in inserting the needle with spinal deformity present.

Spinal anesthesia was selected in cases with pulmonary tuberculosis to avoid the congestion following the use of ether. Alcoholics were also found easier to manage than when ether was used.

Under spinal anesthesia, the sphincters are completely relaxed, there is no muscular spasm and there is an entire absence of the venous engorgement and swelling of the tissues so often seen while the patient is under ether. Bleeding is not as profuse and is more easily controlled, since all parts of the rectal cavity are as accessible as their anatomy will permit. The complete muscular relaxation reduces the traumatism to the tissues.

Spinal anesthesia is at its best when used in operations about the rectum and genito-urinary tract. Careful selection of cases, drugs of uniform strength and purity, and a careful technic will do much to re-establish the confidence of the surgeon in this method of producing anesthesia.

"VAGINAL ANUS IN THE ADULT, WITH REPORT OF TWO CASES."

By Louis J. Hirschman, M. D., Detroit, Mich.

Dr. Hirschman reported two cases of imperforate anus with the anomalous opening occurring in the lower part of the vagina, both occurring in adults. He successfully operated in both cases. His first case was aged 25, unmarried, and until a few months before examination did not know that she was anatomically different from other young women. She was brought up by a maiden aunt who, while realizing that her charge was not normal, felt as long as she was having regular bowel movements, she would put off any operative interference until later in life.

The operation in this case consisted in closing the vaginal anal orifice after dissecting the rectum free from the vaginal septum. There being present an infantile sphincter muscle at the normal anal site, an incision was made through the center of this, and by blunt dissection the tissues between it and the blind end of the rectum were separated. The rectum was then pulled down, opened and sutured to the integument. The perineum was not split open nor was the sphincter divided. A good functional result followed.

His second case was also unmarried, twenty-

three years of age. The case was very similar to Case I., except that there was an over-development of the sphincter vaginae which gave her good fecal control. There was present in this case a small fistula connecting the anus and vulva but not communicating with the rectum. In this case the perineum was split and the fistula dissected out. The vaginal anus was dissected free and brought down to the normal anal site in a manner similar to that pursued in Case I. The perineum was then repaired as in an ordinary perineorrhaphy. The functional result in this case was also good. The author concludes from his experience with these two cases, and realizing the very high mortality from operations for imperforate anus, in infants, that where there is some abnormal outlet for the feces present, it is far better to allow patients to go on in their abnormal condition until they grow old and strong enough for surgical interference and the correction of nature's failure.

"TUBERCULAR FISTULA WITH EXTENSIVE INFILTRATION WITH SPECIMEN EXHIBITED."

By Samuel T. Earle, M. D., Baltimore, Md.

Who reported a case of tubercular ischio-rectal fistula, which on the skin surface, resembled an acute inflammatory condition ready to break down, yet when opened, it proved to be a dense mass of fibrous tissue with only a few tracts of necrotic tissue running through it.

The patient was a policeman, aged forty-five; robust and of a ruddy color, weighing one hundred and eighty pounds; no cough, no history of pulmonary trouble. Patient admitted to hospital, December 29, 1906.

The left buttock was very much swollen and inflamed; there were several fistulous openings on its surface, which could not be followed far beneath the skin, and there was one of them that opened just to the right of the anterior commissure, into the anal canal. Upon laying open the buttock between two of the openings, there was exposed a mass of white fibrous tissue that seemed to be encapsulated,—except at the points which apparently were necrotic,—which was adherent to the sub-cutaneous tissue. Supposing it to be a tumor, which had broken down in places, an incision was made, on either side near each lateral border, for the purpose of removing it, which was done. The mass measured $6 \times 3 \times 2$ inches.

It ran down to and some went between the muscles of the buttock, and in one or two instances, involved the same. The tract from the inner margin of the mass, to the openings in the anal canal, was then laid open and packed with gauze. The cavity left was so large that sutures were introduced to draw the edges partially together, and to hold in the packing. These were supplemented by adhesive strips.

After the mass was removed, it was found to be composed principally of fat, with here and there a sinus which was surrounded by dense fibrous tissue from one-quarter to one-half inch thick, and there were found several large larva, supposedly of flies, deep down in the sinuses of the growth. The tapering tail-like process, that extended over the trochanter major, was composed principally of muscle.

Upon microscopical examination, the growth proved to be tubercular. The patient made a slow but complete recovery. The large cavity filled in completely. The patient is now perfectly well and robust.

"FISTULA IN THE POSTERIOR ANAL COMMISSURE."

By J. Coles Brick, M. D., Philadelphia, Pa.

Who stated that the anatomy of the posterior anal commissure is of such peculiar arrangement that ulcers or fistulas, in this region frequently do not granulate in a proper manner.

The greater part of the external sphincter muscle arises from the coccyx, and after forming the ano-coccygeal body of Symington, passes around the anus, forming a Y-shaped or triangular cul-de-sac at the posterior anal commissure, making this the weakest part of the anal circumference. The levator ani muscle is separated from the coccygenic muscle by a cellular interspace, rendering possible an easy extension of pyogenic organisms.

In ulcerations or small fistulas in the posterior anal commissure, it is the writer's custom to make a triangular incision with the apex toward the anus, rather than an anterior-posterior cut. In cases of fissure in this commissure, two incisions, $\frac{1}{8}$ of an inch deep are made down into the sphincter muscle on each side of the fissure, all fibrous tissue being removed from the fissure itself.

The physiological action is, that during defecation, the lateral fibers of the sphincter forming the triangular space are at rest, due to their division; thus saving distension of this space, and consequently no interference with healing.

"MODIFIED TECHNIC IN RESECTION OF THE RECTUM."

By J. Rawson Pennington, M. D., Chicago, Ill.

Numerous illustrations were shown by the author, intended to serve as demonstrations designed and employed by himself and Dr. Gronerud in resection of the rectum in a special case. The growth for which the method was employed extended upward from the upward border of the levator ani muscle for about two and one-half inches.

A perineorrhaphy was first done, splitting the recto-vaginal septum back to Douglas cul-de-sac. The rectum was then dissected from its lateral and posterior connections upward until it could be pulled downward far enough to effect an end-to-end anastomosis, when the section, including the growth was removed.

The incision was closed with buried catgut-sutures, and silkworm-gut for the skin. The posterior vaginal flap covering up, as it did, the operating field, prevents the urine, vaginal and uterine secretions, from coming in contact with the wound.

"ABDOMINAL MASSAGE IN THE TREATMENT OF CHRONIC CONSTIPATION, ETC."

By T. L. Hazzard, M. D., B. S., Pittsburgh, Pa.

The writer referred to the fact that general massage had been practiced from very ancient times until the present for the relief of fatigue

and for the purpose of increasing the flow of fluids in the blood-vessels, the lymph spaces and juice canals, by which more perfect elimination of waste is obtained and better assimilation brought about. Two conditions which, in his opinion the relief of, will do away with two-thirds of the slight ailments as well as some of the more serious ones. He began massage for the relief of chronic constipation and was much surprised to find the far-reaching, adventitious effects produced. Among others, for example, that the chalky deposit in the joints in articular rheumatism, under careful, patient, persistent manual therapeutics as applied to the bowels, will entirely disappear more often than not.

Mentioned no particular method, saying that any good text-book would give the technic sufficiently well. This manipulation is recommended not only for chronic constipation, but also for the relief of coprostasis for which operation it is very frequently done.

After indicating more of the benefits and some of the dangers of the method, the writer said that if this treatment called for more time than the physician or surgeon could spare, it had better be left altogether, although the patient would surely lose a very great benefit. The paper closed with the remark that doubters as to the very great advantages which will accrue to the sick, in many, many ailments, have but to practice careful and intelligent massage to be convinced.

"INTESTINAL AUTO-INTOXICATION : ITS TREATMENT BY IRRIGATION."

By Wm. L. Dickens, M. D., Saginaw, Mich.

During normal digestion, there are present in the intestine peptones, crystalline bodies, aromatic substances and ptomaines, which are toxic, but changed into less toxic bodies and eliminated by the stools. Whenever their number is very great, relief is obtained by a profuse intercurrent diarrhea, while the remaining toxic bodies, having been acted upon partially by the digestive mucosa, are bacteriological examination, claiming that every changed into the liver, then enter the circulation, and being further changed by the antitoxic glands, finally are eliminated through the skin, kidneys and lungs.

Many patients have suffered for years, and perhaps the greater part of their lives from constipation, and the condition has been aggravated as they have grown older and more sedentary in their habits.

There are well marked symptoms in the auto-intoxicated. Among the prominent are: A drawn expression; sunken eyes; frequently the so-called liver spots; often the patient is pot-bellied and the skin is dry and harsh; it is quite common to have the bowels greatly distended by gases, shortly after meals, necessitating the loosening of the clothing; the breath is frequently very offensive; the odor of the stools is sickening, while the stools are constipated, hard, lumpy, and of small caliber or semi-liquid and mushy, and upon examination mucus and membranes are found. Patients are often unable to concentrate their thoughts, and there is loss of memory. There is great fatigue, and depression of spirits. Pruritus, urticaria, eczema or furunculosis caused by intestinal auto-intoxication may be present.

These are not all the symptoms that may arise from intestinal auto-intoxication, but they are sufficient to emphasize the importance of the subject, and the necessity of having the intestinal discharges examined by a competent person before and during the treatment of the patient. An examination of the urine to determine the amount of indican present in cases of intestinal auto-intoxication can be made by any physician, but there are times when a laboratory examination must be made by an expert.

The treatment must of necessity begin with careful attention to the kind and amount of food taken. Vegetables should largely replace meats, and in fact the patient will gain faster if meat is not partaken of at all. There should be a liberal use of water internally, drinking between meals two or three quarts of water daily.

The treatment is not simple and is one that requires attention and generally a long time. The routine method is the administration of calomel gr. 1/10 and podophyllin gr. 1/24, repeated every hour for eight or ten doses, followed with rochelle salt one-half ounce in six ounces of hot water every two hours until the stools are watery. The colon should be distended with warm water containing half an ounce of soda sulphate to the quart. The patient should be in the knee-chest position. The water should flow slowly fully distending the bowels, but not causing pain. This washing out of the bowels should be done daily for about one week and the urine should be examined again for indican, and if it is found present, the indication is that there is need of another course of the calomel and podophyllin. The bowel should be made aseptic by the use of sulphocarbonate of zinc gr. x to one quart of water used by enemata retaining as much of it as possible.

The treatment is to keep the intestines as clean as possible.

"PERIRECTAL ABSCESS."

By J. A. McMillan, M. D., Detroit, Mich.

Who called attention to the fact that in a large proportion of cases of perirectal abscess, the bacillus tuberculosis is present, and that next in importance, as an etiologic factor, is the gonococcus. A diagnosis is most difficult when the abscess is located above the levator ani. In this location it is frequently found to be complicated with some disease of one or more of the pelvic organs. In this condition it is sometimes necessary to make an abnormal incision both for exploratory purposes and to rectify the condition. In the treatment of the perirectal abscess, however, the drainage should always be from below.

"DISEASE OF THE COLON DUE TO EXTRA-INTESTINAL CAUSES, WITH SPECIAL REFERENCE TO MEMBRANOUS COLITIS: ILLUSTRATIVE CASES."

By A. B. Cooke, M. D., Nashville, Tenn.

The intimate functional relations existing between the several viscera of digestion, which is recognized by all, was pointed out, but the writer stated that the anatomic relations of the alimentary tube and the frequency with which they are to be looked to for the explanation of many of its pathologic conditions, have not received

the serious consideration their importance demands. He also called special attention to certain familiar diseases of the colon, which are often found to exist primarily because of these relations, and the mechanical irritation growing out of them.

Perhaps, the most conspicuous of which, was cited *membranous colitis*. The writer recalled the great divergence of opinion that has always prevailed as to the true nature and pathology of this malady, and notwithstanding the conclusions of such authorities as Osler, Tyson, Hemmeter and others, that the disease is a secretion neurosis; he takes the contrary view held by many other equally careful and competent clinicians, who hold that there are always pathological lesions that bear directly upon the colon, either from without, as by pressure from other misplaced organs, or by adhesions, or some local irritant from within to account for these cases.

For present purposes the term membranous colitis is limited to that peculiar affection, which is characterized by the periodic discharge of mucus with membranes or casts from the bowel, and of which fecal stasis is always a prominent feature. With reference to this type of colitis, Dr. Cooke stated unequivocally that he had never seen a case in which he failed to find some gross pathologic condition of one, or more abdominal organs as well as of the mucosa itself; and furthermore, that the etiologic relation between the two has been clearly established in a number of cases by the prompt and permanent disappearance of the bowel trouble upon correction of the extra-intestinal condition, after all other methods of treatment had failed. From this experience he had been led to conclude that the primary causes of this particular variety of colitis belongs in the main, if not exclusively, to a special class, viz., those which act mechanically. Most noteworthy in the list of such causes are enteropositis, right movable kidney, peritoneal adhesions and extra-intestinal growths which occasion continuous pressure upon some portion of the colon.

He then discussed each of these causes in detail and supported his argument by the enumeration of well-illustrated cases.

"NECESSITY FOR ROUTINE EXAMINATION OF THE RECTUM IN INTESTINAL DISEASES: ILLUSTRATIVE CASES."

By Dwight Henderson Murray, M. D., Syracuse, New York.

Dr. Murray's paper was one of special interest to the general practitioner and emphasized the necessity for rectal and colonic examinations in all cases of protracted diseases of the digestive tract, whether special symptoms are directed to the rectum and colon or not.

In many cases of gastro-intestinal disturbances the real cause may be found in the rectum or colon, if sought, though the patient gives no symptoms of such rectal trouble. These are amenable to local treatment.

A thorough examination, including rectal and bacteriological examination of the stools, should be made in every chronic intestinal case before beginning treatment. He advised that physicians

should not treat patients who refuse to allow the necessary examination.

He reported illustrative cases including so-called intestinal indigestion and dyspepsia, chronic diarrhea, cancer of the sigmoid, and internal hemorrhoids.

A case of internal hemorrhoids where the attending physician had entirely neglected to examine the rectum, had been treated by lavage seven months, for so-called dyspepsia and dilation of the stomach without benefit, and was told that a gastro-enterostomy was the only hope of cure. After an operation for radical removal of the internal hemorrhoids he was cured of his dyspepsia. A careful diagnosis would have saved this patient years of suffering.

The patient's life in one instance (possibly) and certainly the general reputation of the medical profession in all of the cases would have been better had the patients been carefully examined.

This neglect was found to be true not only of the physicians in this country, but of physicians in Europe, who had treated some of the cases in the list reported.

The author made a plea not only for local but bacteriological examinations, claiming that every case of diarrhea, continuing for a longer time than is sufficient for nature to eliminate the irritating material that may be causing it, is due to a more serious disease.

There are many local conditions that cause a chronic diarrhea which would be eliminated by a simple operation or local treatment. When allowed to become chronic while depending upon oral medication, frequently the time when a cure could be affected had passed, and chronic invalidism or death may result.

"SIR CHARLES BALL'S OPERATION FOR INTERNAL HEMORRHOIDS,"

was the title of a paper read by G. W. Combs, M. D., Indianapolis, Ind., in which he briefly described the operation advised by Mr. Ball for the removal of internal hemorrhoids, which consists: (1) of making a curved incision opposite the pile being treated, terminating in the mucous membrane on either side of the pile, the greatest convexity not including more than one-third of the revolved anal ring; (2) of bluntly dissecting the pile from the external sphincter, the dissection being carried upward until healthy mucous membrane is reached; (3) of crushing the pedicle in a powerful clamp; (4) of passing a heavy silk ligature subcutaneously in the remaining two-thirds of the revolved anal ring and through the crushed mucous membrane pedicle, one part of which is constricted in a first tying and the whole of it in a second; (5) of tying the ligature very tightly, thus bringing the remaining two-thirds of the revolved anal ring up into position, maintaining it there until union takes place and constricting the pedicle so that sloughing will occur.

The results obtained by the writer have not been so favorable as those that should follow the procedure as indicated by the author.

The following are the writer's conclusions:

1. The post-operative pain is greater than after the usual ligature or clamp and cautery method.
2. The duration of the healing period is not shortened because of the sloughing of the ligature from either the skin or pedicle before union

takes place, leaving the wounds to heal by granulation.

3. There is a necessity for unusual watchfulness that all ligatures may be removed as they slough.

4. Failing to secure primary union, skin-tabs frequently remain for subsequent removal.

5. No time is saved by this modification of the ligature operation.

6. There is danger of secondary hemorrhage from an early tearing off of the pedicle by traction.

"THE TECHNIC OF THE INJECTION TREATMENT FOR HEMORRHOIDS,"

was the title of the paper by Dr. Edwin A. Hamilton, of Columbus, Ohio, who stated that the injection treatment does not have wide application; as its indiscriminate use is followed by embolus, abscess and other complications; and relapses are prone to occur except in cases especially adapted to this method. The instruments needed are a cone-shaped anal speculum with one broad fenestrum and a special copper-tipped long needle of large caliber with an outside barrel which may be screwed to the needle proper to regulate the depth to which it may be inserted. The solution is 10% carbolic acid; 90% oil of sweet almonds. Neither water nor glycerine is used in the solution as they cause pain. When the sphincter is normal or hypertrophied, the hemorrhoids are never strained outside of the rectum and treated there, but are allowed to protrude through the fenestrum of the speculum and attended to in their normal location. In cases where the sphincter is dilated and the hemorrhoids are easily replaced, they may be treated outside, but under no other conditions. From four to eight drops are injected in a hemorrhoid, only one injection being made at one treatment. The patient rests in the recumbent posture for several minutes. No application or dressing is applied. The bowels are moved after the second day. Subsequent treatments may be administered at intervals of five days.

"THE TEST DIET: NITROGEN AND SULPHATE PARTITIONS AS AN AID TO DIAGNOSIS IN INTESTINAL DISTURBANCES."

By Jerome M. Lynch, M. D., New York City, NEW YORK.

Who stated that the subject of test-diet, as suggested by Professor Schmidt, is one well worthy of study. If, after a proctoscopic examination of the rectum and sigmoid and an examination of the stomach contents, a case is still obscure, the test-diet should be given, and an examination of the feces and a thorough examination of the urine, with nitrogen and sulphate partitions, be made. Otherwise, one cannot conscientiously say he has exhausted all the resources at his command.

These tests, he admitted, are not always conclusive, but in most cases they are of great help; often, a positive solution of doubtful problems.

Of twenty-five cases under observation during the last six months, he found three of especial interest. Case I was referred for treatment on account of moderate diarrhea, with prolapsing

and bleeding internal hemorrhoids. The stomach had been previously examined with negative results. Proctoscopic examination, except for hemorrhoidal condition was negative. Put on test-diet. The specimen of feces examined had a somewhat pasty consistency, a light yellow color, normal odor and showed no microscopic admixture. Microscopic examination showed the usual amount of striped muscle fiber, carbohydrate food remnants and granular detritus, with an excess of free fat and fatty acids. The starch was properly digested; bacterial flora, not excessive; reaction, neutral. Sublimite test, negative. Fermentation test, negative. The specimen showed evidence of deficient bile admixture.

The analysis of a twenty-four hour specimen of urine showed the specimen to contain no albumin and no renal elements, with a normal daily amount of urine, a normal specific gravity and a normal daily excretion of urea. The sulphate ratio as well as the ratio of the urea and uric acid was somewhat depressed, with the presence of a marked excess of indican.

Analysis of this report disclosed at once the cause of the diarrhea, namely: deficiency of bile with excess of fatty fluids and depressing of sulphate ratio, causing auto-intoxication.

The other two cases were equally interesting.

Relative to the determination of the clinical significance of faulty sulphate and nitrogen partition, the writer stated that the relative increase in ethereal sulphate may be due to one of several causes, among which are mentioned, stasis in the bowel, indigestion of decomposing nitrogenous food, improper digestion of food in the stomach and upper intestine, by diminution or absence of hydrochloric acid and bile, the result of excessive or faulty bacterial fermentation in the lower portion of the small intestine and the upper portion of the large intestine. This process may exist without an actual toxemia, and an actual toxemia may exist without this particular putrefactive process; but they are usually associated.

Excess of ethereal sulphate is usually associated with an excess of endoxyl sulphate, though not always. Without means of estimating the amount of the actual products of toxemia, the relative excess of ethereal sulphates is used as a guide, although subject to errors, as are other guides.

Fault in the nitrogen partition would seem to justify the inference that the hepatic function is disturbed. The decrease in the relative amount of urea nitrogen probably indicated the degree of the fault. With this decrease, there is a relative increase in the amount of one or more of the other forms of nitrogen in the urine. In the severe toxemias of pregnancy, pneumonia, etc., this is chiefly in Ammonia Nitrogen and Creatinin Nitrogen; in digestive disturbances the increase in the so-called Extractive Nitrogen, and in lithemic cases and in those of cyclic vomiting, headache, or albuminuria, in the Purin Nitrogen as well, particularly during the acute attack. In cases of enteritis or colitis, owing to the destruction of cells, the Purin Nitrogen is often increased.

Faulty nitrogen partition may exist without a toxemia, but a hepatotoxemia without a faulty nitrogen partition is practically unknown. Acidosis frequently accompanies a faulty nitrogen partition; but it would seem an evidence of the tox-

emia rather than of the fault in hepatic function, though this is disputed by some.

"MULTIPLE ADENOMATA OF THE RECTUM."

By James P. Tuttle, M. D., New York City.

Who stated that the distinction between multiple adenomata and polypi is more marked clinically, than histologically. Pedunculated adenomata or polypi may exist in varving numbers without constituting true multiple adenomata. Age and its relation to the two types; distinction between the two types in proportion to the number of growths; the relative frequency of the growths in different portions of the bowel; growths found largely in the sulci and not in the mucous folds of the bowel. What is the probability of malignant metamorphosis when not interfered with? The tendency to recurrence, in malignant form, after surgical measures? Results of internal and local medication; results of functional rest to the parts. Does radical operation furnish the best hone for the patient, in view of clinical experience?

"SURGICAL TREATMENT OF DIARRHEA AND A DESCRIPTION OF A NEW CECOSTOMY WHICH PERMITS FREE IRRIGATION OF BOTH THE SMALL AND LARGE INTESTINE."

By Samuel Goodwin Gant, M. D., LL. D.,
New York City, N. Y.

In this article attention was first called to the frequency of occurrence of chronic diarrhea and the simplest and most reliable methods were briefly outlined of diagnosing ulcerative lesions of the colon inducing diarrhea and also the relative frequency was mentioned between gastric and hepatic diarrhea and those caused by local disease of the large intestine. The author then proceeded to make the following points:

First: That acute attacks of diarrhea could sometimes be controlled by diet, rest and internal medication and, further, that the frequency of the evacuations could occasionally be diminished by these therapeutic measures in chronic diarrhea, but that a cure of the latter could be accomplished only in rare instances in this way.

Second: That the treatment of chronic ulcerative colitis by internal medication should be abandoned because it is harmful in many ways and utterly unreliable in so far as a cure of the diarrhea is concerned.

Third: That *direct bowel treatment* by lavage or medicated irrigation introduced through the anus or from above through the appendix or cecum, is the only rational treatment for diarrhea due to ulcerative lesions of the colon.

Fourth: That operative procedures are contradicted except in cases where, for any reason, the colon tube cannot be introduced sufficiently high to insure thorough washing out of the entire large bowel and when operative procedures are declined.

Fifth: That the surgical treatment of chronic diarrhea gives universal satisfaction and that he recommended appendicostomy and cecostomy for the relief of this ailment with the same confidence that he did appendectomy for appendicitis.

Sixth: The relative values of *resection, intestinal exclusion, colostomy, appendicostomy, simple cecostomy, and cecostomy* with an arrangement for irrigating the small intestine, (Gant's operation) in the treatment of chronic diarrhea, were fully discussed. The results of his experience show that appendicostomy and cecostomy could be performed most quickly, where the least dangerous, give the best results and were less often followed by unpleasant sequelae than the other procedures.

Seventh: He stated that formerly he was prejudiced in favor of appendicostomy but that a more recent and larger experience had caused him to look with greater favor upon cecostomy, especially when combined with irrigation of the small intestine. He maintained that his cecostomy was suitable in all cases of chronic diarrhea because it could be employed when the frequent stools were due to both an enteritis and an ulcerative colitis and when the lesions were confined to the colon alone, and, further, that his operation should supersede appendicostomy, in many instances, because the appendix was frequently unfit for irrigating purposes because it was too short, too narrow, strictured or bound down by adhesions and often had a tendency to become necrotic, slip back into the abdomen, become closed when not kept open by the introduction of a catheter and that appendicostomy was not suitable when the small bowel was diseased.

Eighth: He then briefly described the technic of his cecostomy with provision for small intestine irrigation, the main idea of which consisted in making an opening in the cecum and inserting two tubes, one into the cecum and the other into the small intestine through the ileo cecal valve by the aid of a catheter-carrier. He claimed that the advantage of this procedure over other operations was that either the small or large bowel could be irrigated at will and that there was no fecal leakage about the catheters.

Ninth: In concluding his remarks, he summarized the results obtained by him in the surgical treatment of chronic diarrhea by the through and through method and reported thirty-eight cases treated by appendicostomy, and fourteen by cecostomy, eight of the latter being operated upon by the Gibson, and the remainder by his new procedure and said that the universally successful results obtained by surgery in this class of cases is far better than those obtained by the use of the timeworn way, where they depend upon dieting, rest and medication, as practiced by many physicians today.

"A REPORT OF TWO CASES OF ANOMALOUS SIGMOID."

By Arthur Hebb, M. D., of Baltimore, Md.

One case was an extremely long sigmoid, reaching from the mammary line to a point midway of the thighs, when withdrawn from the abdomen; the second case was a short sigmoid, with a mesentery, $\frac{3}{4}$ inches in length, situated above the crest of ilium, on a line with the lower border of the last rib, coming off from the descending colon. It was only four inches in length. The descending loop, with no mesentery, ran down over the bifurcation of the left iliac artery and ureter; then forward, hugging the left side of

the pelvis and down over the anterior and posterior branches of the internal iliac artery where it joined the rectum.

"NEVUS OF THE ANAL REGION WITH REPORT OF A CASE ASSOCIATED WITH INTERNAL HEMORRHOIDS."

By Lewis Adler, Jr., M. D., Philadelphia, Pa.

The author of this paper mentioned the rarity of this condition as an anal affection. The patient whose condition was detailed, was a male, aged forty, whose habits were good. From birth he had a noticeable fullness at the anus, which as he grew older occasioned him considerable annoyance when walking and at stool. When twenty years old he had had an operation for hemorrhoids performed, which temporarily gave relief. As time went on his hemorrhoidal trouble returned and the external congenital fullness became worse. Bleeding frequently attended efforts to have an evacuation, though the bowels were never what might be called costive.

Examination prior to operation, revealed a mass of thickened skin, of a dull purplish hue, surrounding the anus, about two inches in width and elevated from the surrounding skin about 1/16 of an inch. Scattered over this area were numerous hairs. The anus was quite patulous, and, upon bearing down, a hemorrhoidal mass protruded and the external portion, around the anus, visibly increased.

A diagnosis was made of nevus associated with internal hemorrhoids, and an operation was advised, to which the patient readily consented. At this time, he was apparently in fair physical condition and by no means markedly anemic, although his color was far from normal and he lacked what might be termed resistance. His weight at the time was 151 pounds and his usual weight being stated to have been 170 pounds.

An operation was performed, on March 29, five days after he was first seen by the writer. The patient took the anesthetic very badly; it requiring over a half hour to get him in a condition to be placed upon the operating table. After the removal of the hemorrhoids, which were as large as any the writer had ever seen—the tissue composing them being much thicker and denser than is usually encountered in ordinary cases—the patient's condition was that of profound collapse. The usual clamp and cautery method was used for the removal of the five hemorrhoidal masses present. After the administration of a hypodermic injection of atropin and strychnine, the patient rallied, and the nevus was then excised. The removal of the latter caused very little loss of blood, so much so, that its absence was remarked upon by several of those who witnessed the operation, and during its removal numerous veins were noticable upon the under side of the growth, which stood out, in their distended condition and showed a characteristic bluish color.

By the time this step was completed, the patient's condition was bad again—the pulse weak and the skin moist. The usual dressings were applied; no attempt being made to unite the edges of the wound and the patient was removed to his room, where a hypodermoclysis was promptly given, to which was added four ounces of whiskey. His condition gradually improved, but within five hours he was dead. The manner in which he died

led to the inference that his death was due to a cardiac embolism.

The pathological findings of the specimens removed, as made by the pathologist of the hospital, Dr. James A. Kelley, showed that the growth was that of a simple nevus.

"APPENDICOSTOMY AS AN AID TO THE TREATMENT OF MALIGNANT AND INTRACTABLE DYSENTERY."

By John L. Jelks, M. D., Memphis, Tenn.

In reference to this subject, the author stated that when amebic infection had become very chronic or had extended into all parts of the colon beyond the use of local measures, and, in some instances, of acute malignant cases, appendicostomy should be performed and irrigation practiced through the appendiceal stump. The water is allowed to pass out through the rectum into a catch-basin and is not an unpleasant method of treatment. Dr. Jelks prefers the method suggested by Dr. James P. Tuttle, of New York City, who conceived the plan of allowing the appendix to remain undisturbed after anchorage, for a sufficient time (three or four days) to establish adhesions about the proximal end, before cutting away the distal portion and using the appendiceal stump-lumen through which to irrigate with the desired solutions.

Dr. Jelks practiced this method and irrigated the colon with formalin-boric, copper-phenol-sulphonate, quinine and normal salt solutions with gratifying results. It was observed, however, that irrigation thus given did not effect a cure. Topical application (per sigmoidoscope or rectoscope) were in all cases used in conjunction.

The method as used by Weir, and as advised by Tuttle, is practically free from danger, and the author believes is not more hazardous than appendicostomy and the after-effects are not at all unpleasant to the patient in the ways and degrees that a colostomy must be. He sees no great danger of hernia or wound infection if proper precautions are taken in dressing the same. By this method one may practice almost continuous irrigation of an inflamed colon and rectum with no special degree of pain or discomfort to the patient—the appendix being used as a nozzle, directing the solution into the colon.

He does not advise appendicostomy except in a small percentage of cases, mostly chronic ones, but in these, he insists that it is a most valuable aid to the treatment and that the operation itself is practically free from danger, as is appendectomy when the appendix is not the seat of infection.

The author concludes his article by stating that in all cases requiring appendicostomy we should not permit the stump to close before the expiration of one year. He has been forced to reopen an appendiceal stump three months after closure and resume irrigations. This was accomplished in his office, but it may become a difficult matter to find the lumen of a closed appendix.

"PRIMARY GONORRHEA OF THE RECTUM IN THE MALE."

By Alfred J. obel, M. D., San Francisco, Cal.

The writer stated that a review of the literature for the past five years showed very little to have been written on the subject of rectal gonorr-

hea, and the cases reported have been rectal gonorrhea in the female and for the most part secondary to an infection of the genital tract.

It was also stated that gonorrhea of the rectum in the male is almost always the result of sodomistic practices, and when so, can be considered of the primary type. The condition has been rather rare in this country but since the influx of foreigners from those countries where unnatural practices are common, more cases are now seen.

The cases reported by the writer were seen in the rectal clinic at the San Francisco Polyclinic and were in American born boys of sixteen, eighteen and twenty years of age, respectively. They belonged to the tramp class and were of a rather low order of intelligence. They were ignorant of their true condition and came to the clinic with a self-made diagnosis of "piles." When made aware of the true nature of their trouble it had a markedly depressing effect upon them, which in one case, after a few weeks, developed into a condition resembling the neurasthenia which often accompanies a chronic posterior urethritis.

The symptoms complained of, briefly summarized, were: All complained of such soreness about anus and rectum that they did not care to stand; while walking was an effort and caused great pain. At the time of bowel movement they suffered such excruciating pain that they hesitated to pass their feces, and had become quite constipated. Two were annoyed by discharge from the anus, while one was unaware of its presence, although it was found on examination. In one, the discharge was streaked with blood, and bleeding was noticed at the time of defecation. One complained of an itching sensation about an inch up from the anal aperture, and had severe pain on the drawing in of the anal sphincters. Their appearance was feverish, worried and haggard, and they felt weak, ill and distressed.

It was impossible to make a digital or instrumental examination at the first visit on account of the severely acute pain caused thereby. Therefore, whenever there is the least suspicion of the possibility of a specific inflammation of the anus and rectum, the case should be treated as if it actually exists, and the ultimate diagnosis left to the future. When the acute symptoms have subsided under treatment, there can be seen excoriations and fissures about the anal orifice and in the canal, with marked redness and infiltration of the mucous membrane of the anus and rectum, together with the presence of a purulent secretion. Examination of this secretion shows the presence of the gonococcus.

The author believes that gonorrhea of the rectum in the male is a much more common condition than is suspected by the general profession. Many of the latter even do not know that such a condition could exist.

The treatment is directed towards keeping the parts clean; relieving the severe rectal symptoms; reducing the inflammatory exudates; keeping the fecal movement soft; healing the ulcerations and destroying the infective agent.

The author further brings out the important point, which he deems worthy of consideration, that there seems to be no reasons why complications, such as gonorrhoeal arthritis or an endocarditis could not arise. While so far as he is aware, no cases of an endocarditis or an arthritis result-

ing from rectal gonorrhea have been reported, yet it would well for the internist to bear in mind that an examination of the rectum might furnish the clue in a baffling case, where the etiological factor is missing.

OPERATION FOR ANAL PRURITUS.

Thos. Chas. Martin, M. D., of Washington, D. C.

The use of a solution of cocaine and adrenalin secures local anesthesia and a dry visible field. Radiating incisions do not endanger the nutrition of the parts. Corrugation of the flaps may be effaced by traction of their margins. A skin-tag may be removed within an eleptic incision, which by suture may be given a linear form. Radiating wounds require no suture, coaptate automatically when the patient is in extension, and heal by first intention.

CORRESPONDENCE

OPEN LETTER.

Dear Doctor: A meeting of physicians and surgeons interested in Scientific Clinical Research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Massachusetts. The meeting will come to order at 10 A. M., and carry its session through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is:

First, to establish an American Association of Clinical Research; secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and thirdly, to institute an American Journal of Clinical Research, in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate case work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its members nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the

clinic requires cold facts and conclusive methods, and upon these fundamental requirements, the structure and the work of the American Association of Clinical Research are to be built.

It is of the utmost importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not, like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasometer system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments on animals to prove febrile or other clinical phenomena in man, may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclusive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine; identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of op-

posite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to James Krauss, M. D., 419 Boylston Street, Boston, Mass.

Yours fraternally,

James Krauss, M. D.,
Chairman Committee American Association Clinical Research.

MEDICAL DEFENSE AND THE STATE ASSOCIATION.

It is a matter of common knowledge that the physician because of the nature of his work is a supposed source of ready revenue for individuals interested in suits at law for purposes of fancied wrong or blackmail. It has been chiefly stated that of the two important assets held by a successful physician, his knowledge and his general reputation, the latter is by far the commodity most easily assailed. Like men in other walks of life, physicians are jealous of their reputation as men, for without it, the matter of knowledge is not sufficient for true success. And still this asset is many times jeopardized or destroyed by any person who may choose for purpose of fancied wrong, to escape the payment of a just debt or for actual blackmail to bring suit or threat of suit. Over eighty per cent of civil suits brought against the physicians come under these three heads and no pretext is too slight to warrant in the minds of these adventures a threat of suit if financial emolument is a faint possibility.

Many suits unfortunately originate in the criti-

cism of a brother practitioner, for here, as in other professions the god of jealousy often enters and stirs up enmity preconceived or thoughtless as the case may be. It is against such abuse that the protection offered by Medical Defense Leagues among physicians is directed.

Criminal action or defense of those guilty of immoral, unjudicious or unscientific practice naturally does not fall within the scope of work of these organizations. In fact men or women in the profession guilty of questionable practices do not seek entrance into or demand the support of associations made up of members whose daily course of action is limited by the recognized standards of justice and honesty in matters civil or professional.

It is not the purpose of this writer to trace the history of medical defense organizations, but rather to mention the scope of work carried on by a few of them. In 1885 the Medical Defense Union "for the protection of character and interests of medical practitioners in the United Kingdom," was incorporated in London. Its purpose was "to promote honorable practice, to suppress or prosecute unauthorized practitioners and to advise or defend its members where proceedings involving questions of professional principle or conduct were brought against them." A nominal annual charge is made against members made up of practising physicians in Great Britain which, with the guarantee fund, is available for protection against unjust suits. Its resources are at present over \$250,000.

In the United States the Illinois Medical Society adopted a medical defense plan in 1905 which embodied the experience of medical defense carried on by the Chicago Medical Society for some years previously. One dollar per year is taken from the amount paid by members of the various county societies to the state society, this medico legal fund being available for defense of suits against members of the state society. The executive committee in charge of the fund employs a strong firm of attorneys who take care of all threats or trial of suits. All expense incident to trial is borne by this fund except judgments. Since suits brought against members are largely for purpose of blackmail, judgments are rarely given. In fact, during four years, of 102 suits, thirty-seven of which are still pending, only two judgments have been rendered and one of these, in the opinion of those competent to judge, will probably be reversed. The Illinois Medical Society has about 5000 members. The Secretary, E. W. Weis, has informed me that the last 2000 physicians who have joined the society have large-

ly been actuated to do so because of this insurance feature.

The Defense League of the Wayne County Medical Society of Detroit, Mich., has been in operation about five years and has been so successfully managed that the Michigan State Medical Association has at present under consideration a similar plan applicable to all members throughout the state.

The Defense League of the Toledo Academy of Medicine has been in operation nearly three years and has thwarted five suits filed against members with suits still pending. The work commenced in Toledo can well be extended to cover members of the State Association. It is to be hoped that at the 1910 meeting of the Association to be held in Toledo the President and House of Delegates may deem it wise to consider this matter through the appointment of a Medical Defense Committee with power to take under consideration the necessary steps toward subsequent adoption of such a protective feature by the Association.

Very respectfully,

(Signed) Willard J. Stone,

Toledo, Ohio.

A BOOSTING CLUB.

To the Editor: Why not a "Booster Club" or "Praise Your Brother Club" in the American Medical Association with no dues or other requirements except that each member pledge himself never to speak unkindly or in criticism of a brother physician to the laity except that physician be also present. Let us renew our vows and wear buttons to show that we mean to keep them.

If such a condition could be brought about we would be held in much greater esteem by our patients and neighbors. Whenever a physician is condemned, maligned or criticised by another physician, the ill-will engendered in the minds of the laity is not against the one physician but the class—individuals are forgotten and the profession is remembered as a whole. If I tell every one I meet that Dr. Pill is a rank physician, knows nothing of medicine and will stoop to any mean practice, the laity soon forget that Dr. Pill is a "poor doctor" and retain the impression that we are all "poor doctors" ready to stoop to anything.

Let's stop it; raise the standard. Can we get together at St. Louis and organize a club?

Yours for "no knocking."

W. T. Wootton, M. D.,
Hot Springs, Ark

The above is from the Journal A. M. A. of August 7, 1909. Will you agitate such a scheme to the end that we may create a better general impression upon the laity, restore confidence in our profession and take away the foundation for so many pathies, religio-cures, etc.?

Very sincerely yours,

W. T. Wootton.

MEDICAL ECONOMICS

By J. W. CLEMMER, M. D.

NATURE'S CREATION.

The nostrum fraud continues to thrive despite the pure food and drugs act. The credulity of some people will strive to support medical frauds so long as public sentiment tolerates publication.

It is the duty of the medical profession, because of its technical knowledge, to protect the public against the misrepresentation of medical facts. The integrity of medical organization is identical with the medical interests of the public.

"Nature's Creation" is the name of a nostrum advertised as a cure for consumption, with home offices in Columbus. A mortuary list of "cured cases" of tuberculosis is being kept, also a list of non-tubercular subjects who testify to having been cured of tuberculosis. Physicians will confer a favor by sending names of individuals taking Nature's Creation and presenting clinical facts that may be available, to the office of the Ohio State Medical Journal.

NAPRAPATHY AND WHAT IT SUGGESTS.

Wonders never cease and now comes the Oakley Smith College of Naprapathy, located in Chicago, formerly at Grand Rapids. "The course of study covers two years; students are taught by six skilled professors; graduates are meeting with great success; twelve have already passed the Illinois State Board and received licenses." The success of drugless healing is shown by the number of systems, practitioners and patrons. The only prerequisite of a new system is a theory, doctrine, method or thing to serve as a vehicle of mental representation of cure impressed upon the patient. The truth about mental healing, as taught by Dubois, handed down to the student body in medicine and practiced by physicians, at least by the neurologists, in accord with its merits and limitations, would destroy the *ignis fatuus* of the non-medical healing movement and establish a rational treatment for functional nervous diseases. Medicine should loosen up the guy ropes of conservatism long enough to take an invoice of the etiological and therapeutic factors thus far offered by metaphysical investigations.

COMMERCIAL MEDICINE.

Two dry goods companies of Columbus are engaged in medical practice. One advertises "the services of an expert optician of New York." (A pair of gold filled eye glasses or spectacles that are guaranteed by this store in every way for \$1.00). "The same quality that exclusive opticians

charge \$5.00 for. Eyes tested free; no drops used."

The other company advertises a number of remedies, dyspepsia tablets, etc.

Medical organization is based upon the medical interests of the people. Any one who misrepresents a medical fact is an enemy alike to the public and the medical profession. Medical advertising in the newspapers, as now conducted, whether by commercial houses or quacks, without exception, misrepresent medical facts. The protest to such advertising, by physicians, is not based upon the thought of competition, but upon the misrepresentation of medical facts. The fraudulent abuse of the public confidence in medical matters imposes a duty upon medical men, by virtue of their technical knowledge to make opposition in accord with the principles of medical organization. If this organization is not maintained in the interests of the public, the medical profession could not and should not exist.

These remarks apply to pharmacal houses in Columbus and other cities. The grievance is exaggerated for the reason that pharmacy is a profession whose honor and integrity as an organization, are identical with those of the medical profession.

As an honorable profession pharmacy cannot afford to advertise diseases and their cures and endorse the nostrums and trickery of medical fakirs. This is done by Columbus pharmacal companies persistently. There are quack druggists and honorable ethical pharmacists in every city. There are it seems, quack dry goods stores and compartment houses in every city. Physicians are alive to the incentives to protect medical organization and the public from medical fraud. Their influence and patronage are being directed toward honorable business methods and houses.

THE ADVERTISEMENT OF CURES FOR VENEREAL DISEASES.

When it is generally understood that the majority of marriageable men are infected by some form of venereal disease, that, in consequence, at least sixty per cent of the pelvic diseases of women submitted to surgery are due to gonorrhoea, that this disease is the cause of much sterility and blindness, not to mention the tragedies of home life; that this infection is encouraged by improper infection and bad treatment through the combined influences of venal publishers and charlatany, then will public sentiment

measure up to the standards of medical legislation to prohibit trafficking the commercial dominion over sexual vice and its train of moral and physical bankruptcy.

The advertisement of cures for venereal diseases by recent enactment in Massachusetts is made a penal offense.

If the Ohio Legislators can get into their heads that such a law is a matter of public policy and not a scheme of the "doctors' trust," they will do something to protect their own daughters and the daughters of Ohio from the sad results of venereal infection.

PROFESSIONAL MEN ARE STRANGERS

in the financial world. Before investing in stocks and securities, it is well to protect non-productive years and the family by a fifteen or twenty-payment life insurance policy. Surplus earnings should be withheld from the solicitations by mail and agents that find easy marks in physicians. Consultation with your bank or business friend is more likely to lead to safe and profitable investments.

THE MEDICAL PROFESSION REQUIRES NO DEFENSE.

It stands for the sanitary and medical welfare of the people. Failing in this it could not and should not exist. The enemies of the organized profession are prompted either by selfish interests or ignorance. Medical men are given to scientific thought and are prone to neglect a duty of organization which necessarily implies the public good and the public confidence. President Cleveland advised medical men to educate the people in medical affairs. This policy has been in force for a decade. The Board of Public Instruction of Medical Subjects of the National Organization is doing good work. The Auxiliary Board composed of one member from each State Association amplifies the work. Besides there is maintained a public educator working through county societies for the education of the people in their own medical interests. Many county societies are holding semi-annual public meetings throughout the country to discuss matters of public policy. It is proposed by the parent organization to secure newspaper space for the dissemination throughout the country of useful knowledge in matters of public and personal prophylaxis. By these means the people are brought into more intimate relation with the medical profession. The state owes it to her subjects to provide means to these ends. Sanitary science requires more efficient administration of the public health? Medical service should

be improved in public office and in public institutions. The state should make better use of medical service in expert testimony in the conduct of the coroner's office, in the care of the poor and the defective classes, and in the medical inspection of the public schools.

POLITICS VS. PURE FOOD.

Under date of March 4, 1909, the government issued a food inspection decision to this effect: "The Referee Board reports as a result of three extensive and exhaustive investigations that benzoate of soda mixed with food is not deleterious or poisonous, and is not injurious to health." Upon this authority the decision rests. No objection will be raised under the Foods and Drugs act to the use of benzoate of soda in food, provided that each container or package of such food is plainly labeled to show the presence and amount of benzoate of soda.

This decision allows the use of benzoate of soda in all foods and an unlimited amount.

The Denver meeting of the Association of State and National Food and Dairy Departments reversed its action of the previous meeting by adopting a resolution upholding the report of the Referee Board by a vote of 57 to 42. This is a scratch victory and indicates a serious doubt among chemists as to the wholesomeness of food treated with benzoate of soda. The report of the Referee Board admits that the drug taken in quantities up to four grams will produce daily pathogenic effects. It says: "In some directions there were slight modifications in certain physiological processes, the exact significance of which modifications is not known." Other abstracts read as follows: There was a considerable or large rise in the hippuric acid excretion. There was an increase of indican in the urine, not great but unmistakable. It is perhaps attributable to a slight irritant action on the gastro-enteric tract so altering the secretions or bacteria (or both) as to favor intestinal putrefaction. There was a depression of the gas forming function of the mixed fecal bacteria. There was a moderate but apparently unmistakable rise in the proportion of coccal bacteria. Both conditions are frequently associated with slight or pronounced inflammatory affections of the gastro-enteric tract.

These admissions of the morbid changes produced in metabolism confirm, rather than destroy, the deductions made by Dr. Wiley after experimentation he says: "Coming to the final consideration of all these different phases of the subject there is only one conclusion to be drawn from the data which has been presented (from his own research) and that is that in the interest of health

both benzoic acid and benzoate of soda should be excluded from food products."

The Board of Referees in its first conclusion states that the benzoate of soda in small doses (under 0.5 gram daily) mixed with the food is without deleterious or poisonous action and is not injurious to health." It should be understood that this deduction is based upon experimentation in young men for a short time, that the regulation to which it gives authority implies the life-long use of the drug without deleterious effect. This does not seem consistent with the experience of those who have taken innocent drugs, such as the chloride of sodium, daily for a long time and thus develop not only functional disturbances, but in time will finally produce pathologic effects. This is seen in salt habits. May not like effects be produced by the benzoate of soda under the decision for its unlimited use in any or all food stuffs.

Another phase of this regulation is that unclean and offensive waste products in packing canned goods houses, which could not be placed upon the market without the use of chemical preservatives and deodorizers will now be sold to the people under the brand of pure food.

For many years industrial interests stayed the hand of Congress from enacting the Pure Food and Drugs Act, and now they are trying to defeat its execution. Trade interests and politicians pull together and away from the people in matters of public health. What influence had in bringing about the food inspection is indicated by the play of partisanship in the Denver meeting. The Secretary of Agriculture, Wilson, member of the President's Cabinet, was in the hotel buttonholing everybody, driving many into line with threats and promises. The manufacturers were there in force on Wilson's side of the fence.

The defense of the peoples' interests was noticed in the 42 votes out of 99 food chemists. The peoples' defense was also made by the medical profession. Our own Dr. C. A. L. Reed spoke in part as follows:

"The referees did not make the experiments themselves. The experiments were not conducted scientifically; they were not comprehensive enough to answer the inquiries of the government; they were too biased to be entitled to public confidence; the facts they did bring out condemned benzoate as a food preservative. But in spite of this the referees indorsed it and by that act stand condemned by the facts in their own record."

The press and the public have become keenly alive to the good effects of the pure food law and any interference with its operations is regarded with suspicion. Despite the decision and resolution favoring a food preservative the newspapers

and the people are on the side of Dr. Wiley as pitted against selfish interests.

Colorado has provided for the inspection of all school children in the state with a view to detecting and correcting physical defects.

In Alaska the school service includes traveling physicians to treat the Eskimos and Indians and to teach preventive medicine.

Self consciousness and obsession are the parents of the insistent thought which gives rise to the wrong habit.

The expert witness question is up for consideration. When settled there will be a better administration of justice and fair deal for the honor and intelligence of the medical profession.

The profession is the natural sponsor of the people in matters of public hygiene. Concerning prophylaxis there is a vast amount of indifference and ignorance. Both in civic and military life, men create and submit to unsanitary conditions which lead to an amazing amount of sickness and death. The mortality of communicable disease is the price paid for criminal carelessness on the part of responsible authority. The fraud and evil of the nostrum trade, and the play of charlatanry upon the credulity of the public plead for the intercession of the intelligent protection which legal authority and medical sponsorship have been slow to exercise. The best champions of the people against medical abuse is the medical profession.

The organized profession is elevating its standards in every department, making itself a more worthy sponsor. Medical legislation, conveying public interests in many ways, is being promoted as never before. The advice of Cleveland to take the public into our confidence is being followed. The people are being educated in medical affairs. Programs of society meetings are being prepared for the attendance of the public. Dr. McCormack is accomplishing a great deal of good in the lecture field.

The thinking public is easily interested in medical matters, and reads all medical news. Unfortunately the quacks furnish the majority of the copy, and that in the form of advertisements. There is need of populized medical literature and the press would gladly supply the demand. The council or executive committee of the county society should prepare copy for the local papers on appropriate medical and sanitary subjects, and offer it in the name of the society.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

POINTS ON THE USE OF BISMUTH PASTE IN CHRONIC SUPPURATIVE SINUSES.

Emil G. Beck (Surg. Gynec. and Obs., Aug., 1909, p. 255) gives a brief summary of the present status of this treatment, which he has used for two years. He finds that tuberculous sinuses, tracts, abscess cavities (including empyema) can be cured by the use of the 33 per cent paste, except where sequestra are present. And here operative removal of the sequestra makes subsequent treatment successful. Sinuses can be prevented by incising cold abscesses, evacuating, and immediately injecting (not exceeding 100 grams, about 3 oz.) of the 10 per cent paste. Toxic effects do not follow injections up to 100 grams of the 33 per cent paste. The injections are effective in all suppurating sinuses and cavities but especially so in tuberculous ones. A prompt change from a purulent to a serous discharge usually indicates prompt healing; where a purulent discharge persists a sequestrum is the usual cause, or there may be a side abscess pocket which is not reached by the paste. Old, neglected cases respond even better than recent ones. Chronic abscesses and sinuses following operations for empyema of the thorax are wonderfully benefited and cured. On this A. J. Ochsner (Reported in J. A. M. A., July 24, 1909, p. 321) says:

"Two formulas are in use. No. 1, consisting of one part of arsenic-free subnitrate of bismuth and two parts of sterile amber vaselin, has a lower melting point than No. 2, which consists of thirty parts of subnitrate of bismuth, sixty parts of amber vaselin, and ten parts of paraffin of a sufficiently high melting point to cause the mixture to maintain its form at the temperature of the body. No. 1 is used daily or every second day until the sinus or abscess is practically free from pus; then No. 2 is used at first every second day, and later less frequently until healing is completed. These mixtures are injected at 110 to 120 F. by means of an ordinary glass syringe. Only just enough force is used to fill the cavity. The outer opening is closed with a gauze plug. The remarkable part of the treatment lies in the fact that cases in which the abscess cavity communicates with a bronchus will heal as rapidly and as perfectly as other cases, and that symptoms of sepsis disappear rapidly and that in most cases in which there is no communication with the bronchi the discharge from the sinus soon becomes sterile."

Dr. Rudolph Beck, a dentist, has found the paste satisfactory in treating pyorrhoea alveolaris and Dr. Joseph C. Beck has used it extensively in chronic sinus diseases of the nose and throat. A report of his work is given in J. A. M. A., Jan. 9, 1909, p. 117. He finds the paste absolutely counter-indicated in acute conditions of the ear and nose sinuses; of no value where the mastoid cells are involved; but, if the trouble is chronic, very rapidly efficient in disease confined to the middle ear; in discharging accessory sinuses of the nose, after a simple turbinectomy or puncture of the sinus makes a proper injection of the paste possible; and as a dressing to the cavity made in radical mastoid operations, where it greatly facilitates the healing. He also finds it of value in nasal dressings after turbinectomies or septal operations and to prevent bleeding, infection and synechial formations, especially after ethmoidal operations. Details of the apparatus used and formula for hard and soft pastes for this special application can be found in the reference (J. A. M. A., Jan. 9, 1909).

Dr. Emil G. Beck (Surg. Gynec. and Obs., Aug., 1909) cites three instances of death from bismuth intoxication following injection of the paste into large sinuses. None occurred among his own cases, but one case of poisoning did develop. The intoxication symptoms are: Ulcerative stomatitis, black border to the gums, diarrhea, cyanosis, desquamative nephritis and loss of weight. Prompt removal of the paste is indicated where any of these symptoms arise. This must *not* be done by curetting but by *solution*. Warm olive oil run into the cavity and left twenty-four hours will form an emulsion which can be aspirated by gentle suction. Then the intoxication promptly subsides. Toxic symptoms are not liable to occur if amounts no larger than here advised are used. The benefits to be derived are known and definite, while careful watch of the patient will allow the paste to be withdrawn in time if symptoms should arise.

[This method should be understood and used by all who have to deal with such cases. The relief and comfort to the patient and attendants in doing away with the foul-odored discharge is alone sufficient, even were no cure possible, to justify its use.—Ed.]

BREAST TUMORS: MALIGNANT.

In order that the data may again be brought to mind, that all breast tumors are to be considered

malignant until shown otherwise by removal, the following summary is quoted:

First, at least 90 to 95 per cent of all tumors of the breast are malignant and no possible intelligence can proclaim which of the remaining 10 per cent will remain benign.

"Second, there is no known cure for any tumor of the breast, benign or malignant, except through surgical removal.

"Third, from 25 to 50 per cent of cases of breast cancer are permanently cured by radical surgical removal. With early diagnosis this percentage could be raised to 80 per cent.

"Fourth, the mortality of this apparently formidable operation should be not over one per cent.

"Fifth, every tumor of the breast, therefore, should be considered malignant and treated as such at the very first moment of its detection, unless incision has proven it benign, in which instance local excision should at least be insisted upon.

"To trifle with tumors of the breast is, therefore, practically nothing short of criminal."

J. N. Jackson, Jour. Kansas Med. Soc., July, 1909.

MAGNESIUM POISONING.

We hardly think that a dose of salts is a poison, but toxic results have followed its use in a few instances and even death has occurred. Boos (Bost. Med. and Surg. Jour., July 22, 1909, p. 122) finds that the dry salt (Epsoms or Glauber) is absorbed without producing catharsis, while very concentrated solutions (except in patients with edema) are also, in part, thus absorbed. He says: "

"In hydremic conditions, however, the salt, even when it is given in very concentrated solution, is not absorbed. Therefore the practice of giving very concentrated solutions of magnesium sulphate to deplete the system of excessive water is rational but perhaps not without possible danger.

"In the absence of edema or ascites, the object of giving magnesium sulphate is to produce efficient catharsis. To do this without incurring the danger of intoxication from absorption, the salt is given in solutions not exceeding six per cent in concentration. Above this concentration more or less magnesium sulphate is absorbed and is lost to catharsis, while its presence in the circulation is a menace to the patient's life. Patients may be given one-half oz. of Epsom salt dissolved in three oz. of water, to be followed immediately by a glass of water (6 oz.); this represents approximately a six per cent solution."

ON THE TREATMENT OF SEVERE URETHRAL STRICTURES.

The Therapeutic Gazette reviewing an article by Cohn (Berliner kin. Wochenschrift, 1909, No. 4) details the following method of passing a stricture which has become occluded by a sudden congestion.

"Ten cu. cm. (3ii) of a 1-5000 adrenalin solution was injected into the urethra and removed after about five minutes. Immediately thereafter it was possible to introduce a bougie. * * * By repeated injections larger bougies were introduced. In the case of very sensitive patients the addition of cocaine is recommended."

[The following is an old, well known urethral antiseptic anesthetic: Antipyrin, 10 per cent; Cocaine, 1 per cent; carbolic acid, 1 per cent; water, q. s. A dram may be used to anesthetize the urethra before instrumentation.—Ed.]

BOILS: THEIR TREATMENT.

Jackson (American Journal of Medical Sciences, June, 1909) holds that boils are local infections, having nothing to do with constitutional states, and that crops of boils are usually due to improper treatment of the first one, as by poulticing the site, then opening the boil, and in this manner spreading the infecting bacteria. Furunculosis is considered as a systemic condition only in that, for some reason, the natural resistance of the body against staphylococci becomes lowered. He treats boils by boring into the softened point with a sharpened stick wound with cotton and dipped in 95 per cent carbolic acid. The boil should not be squeezed. The surrounding skin should be washed with an antiseptic solution and kept covered with a 10 per cent salicylic acid ointment for a week. An abortive treatment consists of injecting a drop or two of a 5 or 10% solution of carbolic acid into the boil before it has pointed, or by touching its top with the 95% carbolic, then applying the dressing as above.

Dr. Jackson says that he has used this method for twenty-five years, treating many cases, with uniform success, and cites as examples seven cases, some of long standing, all successfully treated. He does not dispute the value of vaccines in obstinate cases, but regards them as generally unnecessary."

This treatment is good. One is surprised at the ease and promptness with which the "core" comes away. We have found ichthyol collodion painted around the circumference but not obstructing the opening a good protective against local reinfection. Rhubarb and soda aa gr. jss and calcium chloride gr. i q. i. d. act very kindly as

alternatives in this condition.—Special Note: Having read Heinrich Stern's article on stolen abstracts we sympathize with the editor of the *Archives of Diagnosis*. We have had whole abstracts stolen and run as special articles without credit. Now we admit having "swiped" the above abstract from two journals; the *Vermont Medical Monthly* and the *Boston Medical and Surgical Journal*, and we do read the *American Jour. Med. Sciences*. To whom shall we give credit?—Ed.

INVERSION AND INTERLACING OF THE COLOR FIELDS AN EARLY SYMPTOM OF BRAIN TUMOR.

"It is perhaps not surprising to find that almost every patient brought for operation after the diagnosis of brain tumor has been finally certified by the often long-delayed ophthalmoscopic changes, has at an early stage of the trouble been regarded as hysterical or the subject of some psychoneurosis. Following Charcot, an impression holds sway that more or less contraction of the field for form with partial or complete color reversal (dyschromatopsia) is the great "essential sign of hysteria." These alterations of the visual fields are no less characteristic of brain tumors. We have found no definite relationship between the contraction of the field for form and that of the color field. Some patients have shown the typical hysterical concentric contraction with color reversal, but in many of them there has been a prompt return to the normal relations after a simple decompression."—Cushing and Bordley, Jr.—Reported *J. A. M. A.*, July 24, 1909, p. 316.

"Contrary to the common belief, brain tumors are of frequent occurrence, and possibly there is no disease in which the symptoms are more often overlooked or incorrectly interpreted. For the sake of successful palliative or curative measures, a precocious diagnosis is necessary * * *. A more widespread familiarity with the early appearances of the neuroretinal edema and congestion is needed, and also the understanding that this condition is merely a stage in the process of choked disk. Inversion or interlacing of the boundaries of the color fields; heretofore regarded as pathognomonic of hysteria, has been found to be a fairly constant early phenomenon in tumors."—Cushing, *Bost. Med. and Surg. Jour.*, July 15, 1909, p. 79.

STATUS OF CERTAIN POSTOPERATIVE PROCEDURES.

Cole summarizes the views of fifty leading American surgeons as to the value of certain postoperative procedures. The popularity of Fowler's

position is definitely shown in its employment by 92 per cent. of these fifty surgeons. The use of proctolysis by 99 per cent. shows its universal acceptance as a therapeutic agent in the postoperative treatment of infected pelvic conditions; 92 per cent. of these surgeons use proctolysis in conjunction with Fowler's position. There is undoubtedly a marked variance of opinion as to the employment of stimulative drugs in the treatment of postoperative shock, and a growing tendency to physiologic rather than drug therapy. The fact that 70 per cent. of these surgeons prefer vaginal drainage in infected pelvic cases gives the preponderance of opinion in favor of this procedure in the postoperative treatment of infected pelvis cases.—*Southern Medical Journal*, Nashville, Tenn., June, 1909.—Via *J. A. M. A.*

FLIES: THEIR BREEDING PLACES.

"Contrary to the general belief, Professor Herms has proved that flies do not breed in general refuse matter, and that over 95 per cent. of the eggs which come to maturity are found in manure. Methods of treatment devised by the entomologist will be used in sterilizing the cultures, and it is believed that within a short time after the campaign has been put into effect there will be no more flies in Berkeley."—*San Francisco Chronicle*, via *Hygiene and Physical Education*.

SYPHILIS THERAPY IN CHILDREN.

A. Eysell (*Münch. Mediz. Wochenschr.*, 1908, No. 24) treats the coryza, in children suffering from hereditary lues, by blowing 100 mgr. of a mixture of equal parts of calomel and *saccharum lactis* into each nasal cavity. The symptoms disappear in a few days, while also the general condition improves greatly by continuing this treatment. The same good results were obtained in adults with mucous patches or ulcers in the nose or on the tonsils. In children older than ten years 0.1 to 0.3 calomel, mixed with 0.05 to 0.15 *saccharum lactis*, was used three times daily. Deep inhalation brings part of the powder into the larynx and trachea. Luetic lesions in other parts of the system also disappeared under this treatment.—*Interstate Medical Journal*.—Via *Arch. Ped.*

TO DISGUISE BITTER MEDICINE.

In order to administer bitter medicines we usually resort to covering them in pills, capsules or wafers, but sometimes the liquid form is most desirable. There are certain substances which have the

power of paralyzing the terminals of the nerves of taste. One is gymnemic acid ($C^{32} H^{55} O^{12}$) a glucoside which is found in *gymnema silvestris* of the British pharmacopeia. It is also known as *mera-singi* and *kavali*.

This glucoside is similar to glycyrrhizic acid. Gymnemic acid has the curious property of temporarily destroying the sense of taste for sweetness and bitterness, although the taste for salty and astringent substances is not changed. It is a whitish powder soluble in water, but poorly soluble in diluted alcohol. It is not poisonous, and so far as is known has no harmful action. After rinsing the mouth with a 10 or 15 per cent. solution of gymnemic acid in water, to which a little alcohol has been added, quinin or other bitter medicine cannot be distinguished from sugar.—New York State Journal of Medicine.—Via Arch. Ped.

BOOK REVIEWS

APPENDICITIS AND DISEASES OF THE VERMIFORM APPENDIX. By Howard A. Kelly, M. D., Professor of Gynecology in the Johns Hopkins University. Imperial octavo. 500 pages; 215 illustrations, some in colors and three lithographic plates. Cloth, \$6.00. J. B. Lippincott, Philadelphia and London.

In this complete and beautifully executed work the author reviews the history of appendicitis, describes the anatomy of the appendix and cecum and discusses at length the etiology, pathology, clinical history, the diagnosis and treatment of the acute and chronic inflammatory lesions of the appendix. Dr. Kelly considers in particular the treatment to be instituted in those cases which are not manifestly operative from the start.

The volume contains the many new things relating to appendicitis—the Morris point of tenderness, the Fowler-Murphy treatment of suppurative peritonitis, the surgical value of the leucocyte count, and the use of the piezometer as an objective method of demonstrating the presence of pain and resistance.

Chapter XX, "Care of patient after operation, and post-operative sequelae," is excellent. The chapter on "Appendicitis in childhood" is satisfactory. The importance of making a rectal examination is emphasized, since the adult finger reaches high in the infantile pelvis and the suspected area is easily palpated. The high mortality in the suppurative forms of the disease during childhood leads Kelly to say: "The treatment of an attack of appendicitis in childhood should begin when the disease is in its earliest stages, or even when it is merely suspected."

Walter L. Burrage contributes a chapter on "Senile Appendicitis." Chapter XII, "The leuco-

cyte count in appendicitis," is by Charles L. Simon. It is a real pleasure to see six pages devoted to this important subject. Kelly recognizes the significance of the inter-relation between the neutrophile and eosinophile count, and designates as the "septic factor" an increase of the neutrophiles when associated with a decrease or absence of the eosinophile.

We are of the belief that the subject of leucocytosis—the real value of the leucocyte and differential leucocyte counts—could be presented in a more positive and practical way.

The beauty and accuracy of illustrations of this work have never been surpassed, and the two pages of aphorisms in appendicitis "sink into memory in such a way as never to be forgotten."

MODERN MEDICINE: ITS THEORY AND PRACTICE IN ORIGINAL CONTRIBUTIONS. By American and Foreign Authors. Edited by William Osler, M. D., Regius Professor of Medicine in Oxford University, England, Honorary Professor of Medicine in Johns Hopkins University, Baltimore; Formerly Professor of Medicine in the University of Pennsylvania, Philadelphia; and of the Institutes of Medicine in McGill University, Montreal, Canada. Assisted by Thomas McCrae, M. D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University; Fellow of the Royal College of Physicians, London. Volume VI. Lea & Febiger, Philadelphia and New York.

This volume of Modern Medicine covers Diseases of the Urinary System, Diseases of the Ductless Glands, Diseases of Obscure Causation, Diseases of the Muscles, Vasomotor and Trophic Disorders, and Life Insurance.

Part I consists of fifteen chapters in which the subject of diseases of the urinary system is presented in an exhaustive manner.

Chapter III, on anomalies of the urinary excretion, by A. E. Garrod, discusses the subject in a most practical manner, dealing with the causes and methods of detection of the many substances which may be found in the urine, omitting nothing of importance and making this chapter one of the most valuable in the work from a practical standpoint.

Chapters V to IX, inclusive, present the subject of nephritis, including the various types of this disease. These chapters are written by James B. Herrick and are deserving of the highest commendation because of their system and thoroughness. The author does not neglect the matter of treatment, and his discussion of the treatment of chronic interstitial nephritis should be especially valuable to the general physician.

Tuberculosis of the kidney is discussed by Thomas B. Brown. The practical manner in which the etiology, pathology and differential

diagnosis of the subject as presented leaves little to be desired. The chapter will be a useful aid in clearing up obscure cases of this character, and will do much toward preventing the not infrequent errors of diagnosis which have occurred in the past.

Hugh H. Young's short but excellent discussion of diseases of the prostate, in Chapter XV, is well worthy of special note.

Part II, Diseases of the Ductless Glands, consists of four chapters, all from the pen of George Dock. The name of this author in connection with this particular subject is enough to insure the excellence of this part of the work.

Space will only permit mention of the presentation of Addison's disease, exophthalmic goitre, cretinism, myxoedema and allied subjects. Each of these are discussed in an exhaustive and yet practical manner. In the consideration of pathology Professor Dock impresses one with the accuracy and keenness of his observations. The value of this part of the volume is enhanced by a number of interesting and instructive illustrations.

Under the title Diseases of Obscure Causation, Part III presents Hodgkin's disease by Longcope, arthritis deformans by McCrae, osteomalacea by Dock; astasia abasia and adiposis dolorosa, by McCarthy. The chapters on Hodgkin's disease and arthritis deformans are both splendidly illustrated.

The skiagrams illustrating the pathological changes in bones and cartilages in arthritis deformans are especially valuable, and McCrae's discussion of pathology and diagnosis may well be regarded as the most practical yet presented upon this subject. The discussion of adiposis dolorosa presents considerable new material in connection with the pathology of the condition and its relation to disease of the pituitary and thyroid bodies.

Diseases of the Muscles is the subject of Part IV. It consists of three chapters, covering myositis, Thomsen's disease, myotonia congenita, myasthenia gravis, paramyoclonus multiplex and periodic paralysis.

Steiner's discussion of myositis supplies much important information not easily to be found elsewhere. His description of Thomsen's disease is interesting and practical.

Part V consists of four chapters, three of which are taken up by Professor Osler in the presentation of Raynaud's disease, angioneurotic oedema, diffuse scleroderma and erythromelalgia.

The author's division of Raynaud's disease into mild, moderate and severe forms will probably result in there being more cases of this disease reported in the future.

Angioneurotic oedema, diffuse scleroderma and erythromelalgia are discussed in the thorough and instructive manner characteristic of the author.

The remaining chapter of this part is taken up by Charles P. Emerson in the presentation of trophic disorders.

Part VI is a new departure in works of this character. It discusses the medical aspects of life insurance and is of great practical value. The subject as presented by Charles Lyman Greene should be carefully read by every physician who examines for life insurance.

Not the least valuable part of this chapter is the explanation of questions asked in such examinations and the discussion of their importance. If this chapter might be placed in the hands of all examiners it would be a matter of great advantage to insurance companies.

Volume VI ranks well with those which have preceded it and does much towards making Modern Medicine the splendid work that it is.

HAND BOOK OF DISEASES OF THE RECTUM. By L. J. Hirschman, M. D., Detroit, Mich. Fellow of the American Proctological Society. Lecturer on Rectal Surgery and Clinical Professor of Proctology, Detroit College of Medicine, etc., with 47 illustrations, mostly original, including two colored plates. C. V. Mosby Medical Book Co., St. Louis, Mo. 1909.

The keynote of this book is the use of local anesthesia.

The author has exemplified a technic that can be easily executed in the office of every well equipped physician. A careful perusal of this work would greatly enlarge the scope of the general practitioner, as there is no field in medicine where the material is so abundant.

The author gives us a comprehensive and practical illustration of the large amount of this work that can be done in the physician's office.

HEMORRHAGE AND TRANSFUSION—AN EXPERIMENTAL AND CLINICAL RESEARCH. By George W. Crile, A. M., M. D., Professor of Clinical Surgery, Western Reserve Medical College; Visiting Surgeon to the private ward service of Lakeside Hospital, Cleveland, Ohio. New York and London. D. Appleton & Co. 1909.

The announcement of Dr. Crile's successful work with blood transfusion some two years ago awakened lively anticipation for the detailed accounts of his experimental work preparatory to its clinical application.

Confident of the value of blood transfusion as a life saving measure and believing that the discredit into which the practice fell was due to ill results arising from a general lack of knowledge

on the subject as well as bad technic, the author made a careful study of the subject in all its bearings, and for a period of eleven years conducted series of clinical experiments to test the current theories and develop new facts.

The present volume embodies these experiments and clinical studies together with the highly important and practical deductions which he has drawn, constituting the most valuable contribution on the subject in medical literature. It is divided into two parts. Part one is devoted to the study of hemorrhage; illustrated by the protocols of experiments, from which practical comments are made. Of special interest to practitioners and surgeons are the results in these experiments of the use of saline infusions, strychnia, digitalin and adrenalin.

In the next chapter the close resemblance of acute hemorrhage and shock is shown and illustrated.

Under clinical studies in Part 1 the author discusses the physiological considerations of hemorrhage for the better comprehension of his readers, and then details comprehensively and graphically the symptoms of acute hemorrhage, comparing them with the clinical signs of shock.

In some cases only serial blood examinations will show which condition is present.

Chapter V is devoted to a very interesting study of hemophilia and purpura. The application of transfusion as treatment is considered in Part 2.

In referring to hemorrhage during operation the author gives many practical suggestions, including his method of clamping the carotids, the use of the pneumatic suit, etc.

Part 2 is devoted to the study of blood transfusion. After a brief review of the literature the author details his experimental work with actual blood transfusion in hemorrhage and shock; compares the action of saline infusion and blood transfusion in each and the two conditions combined.

He then gives various experiments to show the various plans and effects of transfusion under a variety of conditions.

Under clinical studies in Part 2 he makes practical applications in the human subject, details his technic, considers the various problems connected with the subject.

The chapter on hemolysis is of especial interest in this connection. He believes that the blood should be tested when possible, but the procedure necessitated twenty-four hours, and sometimes such delay is inadvisable or impossible. In such there is more risk in delay than to proceed.

Very instructive clinical tests of transfusion were made by the author in pathologic conditions,

such as pernicious anemia, leukemia, sarcoma, carcinoma, etc., with mostly negative results.

The author's closing sentence is a just and conservative summing up of the subject. He says: "Judiciously employed, transfusion will surely prove a valuable, often life-saving, resource; unjudiciously employed, it will surely become discredited."

The saddest thing in the practice of medicine is to see a patient with a disease which it took years—one, two, five or twenty—to develop, to come to you with the expectation of curing him in a week or two. And when you tell him that it might take a year or two to cure him or that he cannot be cured, only improved, he thinks that the practice of medicine is not much good, or that you are not much good. And at this point enters the quack and reaps a rich harvest.—*Robinson*.

Do not consider too lightly the history of "growing pains" in the extremities in children. These symptoms may be due to a grave osteomyelitis.—*Surgical Suggestions*.

Persistent pain in the arm may be due to the presence of a "cervical rib."—*Surgical Suggestions*.

An acutely distended bladder should not be completely emptied in one sitting. Its rapid collapse may produce hemorrhagic cystitis.—*Surgical Suggestions*.

A swelling in the inguinal region painful to the touch is, of course, often an inguinal adenitis (e. g., following gonorrhea). But an inflamed undescended testicle should be kept in mind.—*Surgical Suggestions*.

Bleeding from capillary hemorrhage high in the rectum usually yields to injections of cold water or a cold solution of tannic acid. In these cases, however, it is important to exclude the presence of an ulcer higher up.—*Surgical Suggestions*.

The success which follows gastro-jejunostomy in cases of gastric ulcer is due not to drainage, but to the physiological effect of the operation in diminishing the acidity of the gastric contents, and this diminution follows gastro-jejunostomy irrespective of the situation of the ulcer.—*Patterson*.

It is a wise rule never to attempt taxis in cases of strangulated hernia. The only exception might possibly arise in a case seen within the first hour.—*Surgical Suggestions*.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

The Clermont County Medical Society held its Second Annual Outing at the Boston Fair Grounds on August 4. There was a representative attendance of medical men and their ladies. There were also a number from Cincinnati. The country was beautiful, blackberries were ripe and the meeting which was purely social was very enjoyable. Dr. Phillip Kennedy, of Laurel, who is in his seventy-ninth year, fifty-eight years in practice and who has not missed but one meeting of this society since its organization fifty-two years ago, was present and gave some interesting reminiscences.

Dr. Louis Schwab, of Cincinnati, is the probable candidate for mayor of that city at the next election. Dr. Schwab is very popular and is a sure winner. He is now a member of the school board at large having been a candidate at the last election on all three tickets. He was formerly coroner of Hamilton county and president of the Cincinnati Academy of Medicine.

"Methods of Artificial Dilatation of the Cervix." This was the subject of a paper before the Cincinnati Academy of Medicine, by Wm. D. Porter. The doctor said that in his own work he had been lead to restrict himself to two methods of dilation, by the hand or hands or by rubber bags. He sometimes found it necessary to make preliminary dilation with metal dilators to permit of the insertion of a finger. He has frequently resorted to a method of bimanual dilatation which he has not seen described though it may be in use by others. The hands are crossed back to back with the thumbs up. The fingers may be brought into pretty accurate opposition but the thumbs are at different levels. The tips of two or more opposite fingers are inserted into the cervix, the number depending on the extent of the dilatation. The tips of the opposite fingers are separated by lever action, the knuckles being the fulcrum. Considerable force well under control may be exerted. As the dilatation proceeds more fingers may be used until all are inserted. When the hands tire they may be rested without removing them. In using this position it is best to insert one hand and the fingers of one hand and use these as a guide for the other. The patient must

be anesthetized. Having used the Barnes, Braun and Champetier de Ribes bags. He now uses the Braun bag exclusively believing that it is safer and that its results are uniformly more reliable.

The Brown County Medical Society met at Georgetown, Wednesday, September 1. The following program was rendered: Presentation or Report of Cases; Paper, "The Financial Side of the Practice of Medicine," Wesley Love, Higginsport; "Puerperal Eclampsia," William Gillespie, Cincinnati; "Painful Feet," Robert Carothers, Cincinnati. Discussion.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

The third annual meeting of the Chataqua Outing Club, consisting of the physicians of Miami Valley was held at the Franklin Chataqua grounds July 8. Geo. W. Crile was unable to be present for some unavoidable reason, which was a great disappointment to the crowd.

At the request of the committee of arrangements R. H. Grube, of Xenia, opened a discussion on "The Modern Medical Progress and Present-day Therapeutic Methods. The discussion was participated in by a number of those present, and proved to be a very interesting one.

A dinner was served, after which the following program was carried out:

"Pleasures of a Doctor's Life," W. H. Snyder, Toledo, President of the Ohio State Medical Association; "Florence Nightingale and Her Followers," E. S. McKee, Cincinnati; "The Children's Hour," C. L. Patterson, Dayton; "Medicine in the Moonlight," Dan Millikin, Hamilton.

The Second District has three district tuberculosis hospitals on the way. Montgomery, Preble, Miami, Darke and Shelby first tried to combine, but there was a disagreement, and Montgomery and Preble joined forces and are taking over the hospitals started by the Montgomery County Anti-Tuberculosis Society; the other three counties are now trying to get together to form a district to themselves. Clarke, Champaign, Greene and Madison are the third combination and are now looking for a suitable location. The earnest efforts of the county commissioners to carry out the provisions of the new law are highly commendable and show the deep interest of the laity in the important matter.

THIRD DISTRICT

H. B. GIBBON, M. D., Collaborator.

The Logan County Medical Society met September 2. W. J. Stinchcomb, the president, presided. W. C. Pay, of Bellefontaine, read a paper on "The Home Treatment of Tuberculosis." The discussion of the paper brought many valuable points. A. J. McCracqken stated that "tuberculosis is a curable and preventable disease, and must be so taught to the laity. Forced feeding is to be resorted to in order to meet the destruction that is going on in the human system; and one thing that must not be forgotten during the forced feeding, and that is "keep the bowels well open with an occasional dose of castor oil."

W. J. Stinchcomb stated "that the successful treatment depends upon an early diagnosis."

At White Haven Sanitarium the cardinal symptoms in the early diagnosis are viz.: First, history of cough; second, loss of weight; third, afternoon temperature slightly above normal.

In this sanitarium all such cases are put to bed until temperature is normal.

In preparation for the meeting of the Northwestern Medical Society in December at Bellefontaine, several committees were appointed.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Ottawa County Medical Society met at Port Clinton, August 18. W. H. Snyder, of Toledo, president of the Ohio State Medical Association, addressed the society.

J. H. Jacobson read a paper on "The Surgical Treatment of Goitre." This was discussed by Dr. House, of Cleveland, and others. G. B. Booth, of Toledo, read a paper on "Ophthalmia Neonatorum and its Prevention."

The Putnam County Medical Society met at Kalida on August 5. The program was as follows: Address, W. H. Snyder, President of the Ohio State Medical Association; "Pulmonary Hemorrhage," C. W. Bird, Continental; discussion, C. E. Beardsley, Ottawa; "Hyoscyamus and Hyoscine, J. F. Ockuly, Ottoville; Report of Case, F. C. Harman, Ottoville; "Ophthalmia Neonatorum," G. B. Booth, Toledo; address by Councillor, J. H. Jacobson, Toledo.

A special meeting of the Defiance Medical Society was held September 8. The program was as follows: :

Afternoon Session—Address, W. H. Snyder, Toledo, President Ohio State Medical Association; Address, James A. Duncan, Toledo, Mem-

ber Ohio State Medical Board; "Head Injuries from a Neurological Standpoint," Louis Miller, Toledo. Discussion opened by James Donnelly, Toledo.

Evening Session—"The Diagnosis of Lung Lesions," R. P. Daniells and H. W. Dachtler, Toledo. Discussion opened by John B. Ury, Defiance. "Prostatic Hypertrophy, Its Effects and Its Treatment," John G. Keller, Toledo. Discussion opened by E. A. Murbach, Archbold. "Concerning Diabetes and its Therapy," Louis A. Levison, Toledo. Discussion opened by C. E. Slocum, Defiance. "Terminal Events in Gall Stone Disease," C. N. Smith, Toledo. Discussion opened by J. J. Reynolds, Defiance. "Lymph Adenoid Tissue of the Throat in its Relation to Acute and Chronic Toxemias," Thos. Hubbard, Toledo. Discussion opened by W. S. Powell, Defiance. "The Prevention of Blindness," G. B. Booth, Toledo. Discussion opened by E. A. Snyder, Bryan. "The Present Status of the Surgical Treatment of Goiter," J. H. Jacobson, Toledo. Discussion opened by L. F. Smead, Toledo.

FIFTH DISTRICT

FRED W. HITCHINS, M. D., Collaborator.

The sixty-sixth regular monthly meeting of the Lake County Medical Society was held at Painesville, Ohio, Mondoy evening, September 6. The program was as follows: Presentation of cases. Oscar T. Thomas, of Cleveland, spoke on "Urin-ary Complications in Gynecologic Cases."

SIXTH DISTRICT

A. J. MARCH, M. D., Collaborator.

The Union Medical Association of the Sixth Councilor District, Ohio State Medical Association, met at Canton, August 10. The program was as follows:

"Report of a Case of Carcinoma of the Rectum," Charles D. Hauser, Youngstown; "Something About Tonsils and Adenoids, with Clinical Demonstration," Secord H. Large, Cleveland; discussion, D. S. Olmstead, Millersburg; "Electro-Therapeutics," W. B. Smith, Ravenna; discussion, H. Blankenhorn, Orrville; address, "Some of the Difficulties in Diagnosing Diseases of the Abdominal Organs," C. A. Hamann, Cleveland; "The Prophylaxis and Treatment of Gastro-Enter-ic Toxaemias of Bottle-fed Infants in Summer," Judson A. Hulse, Akron; discussion, C. D. Clark, Youngstown; "A Report of the Operative Treatment of a Case of Cleft Palate and Hair-Lip," J. L. Stevens, Mansfield; discussion, Geo. W. Ryall, Wooster; "Minor Surgery—Of the Head, Arms, and Burns," J. Frank Kahler, Canton; discussion, J. H. Weber, Akron.

SEVENTH DISTRICT

S. O. BARKHURST, M. D. Collaborator.

A meeting of the Tuscarawas County Medical Society was held in Port Washington, Tuesday, August 3, 1909. The program was as follows:

"Diagnosis of Nutrition in Infancy"—"Etiology," Fred B. Larimore; "Symptomatology, Pathology and Classification," E. D. Moore; "Diagnosis and Treatment," G. B. Kistler; Clinical Cases; Report of Cases. Fred B. Larimore entertained the physicians at dinner.

The Harrison County Medical Society met July 27. The program was as follows: "Infantile Summer Complaints," J. A. McGrew, New Athens; "Female Obstipation," J. A. Gordon, Bowersmith; "Anemia," S. B. McGavran, Cadiz; "Placenta Praevia," R. P. Rusk, Cadiz.

The Monroe County Medical Society met in regular session August 19. The meeting was called to order by the president, J. W. Norris.

J. C. M. Floyd, of Steubenville, read a paper on "Ophthalmia Neonatorum." The paper was discussed by the members present.

The Tuscarawas County Medical Society met at Canal Dover, Tuesday, September 7. The program was as follows: "Some Obscure Phases of Insanity," Henry C. Eyman, Massillon; "Dietetics," John P. Sawyer, Cleveland; "Therapeutics," James A. McCollam. Clinical cases. Report of cases. The society was entertained by the Canal Dover physicians at dinner at the Herbert at 5 o'clock.

EIGHTH DISTRICT

CHAS. M. HIGGINS, M. D., Collaborator.

The Muskingum County Medical Society met August 5. The following was the program: Address, Walter H. Snyder, Toledo, Ohio, President O. S. M. A., "The Need of Better State Organization." Paper by Julius Jacobson, Toledo, Ohio. "Surgical Treatment of Exophthalmic Goitre." Paper, Chas. N. Smith, of Toledo, Ohio, "The Interpretation of Jaundice." Discussion by L. G. Bowers, Dayton, Ohio.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

Program for the Tenth District meeting: Paper (Gynecological), D. Tod Gilliam, Columbus; "Fractures," Sherman Leach, Columbus; "Laboratory Diagnostics of Internal Medicine," J. J.

Coons, Columbus; "The Treatment of Some of the Common Skin Diseases," Chas. J. Shephard, Columbus; "The Physiology and Pathology of the Heart," John E. Greiwe, Cincinnati.

Dr. Greiwe will demonstrate the interesting features of his lecture by means of stereoscopic views, taken from his collection at the Cincinnati Hospital. Dr. Greiwe is Professor of Medicine in Ohio-Miami College, is noted for his study of the heart, and is an able speaker.

Other features of interest will be added to the program, the above being merely a preliminary one. The whole program has been designed for the general practitioner. All the papers will be by men who are authority on their subject, and each one will be of practical interest.

NEWS NOTES

The Ohio-Miami alumni held their annual outing at Avoca Park on the Little Miami, near Cincinnati, July 22. There was a good attendance and a good time. There was a game of base ball between the Microbes and Germansides, which was interesting in spite of the rain. An elegant chicken dinner with no speeches was a most enjoyable part of the occasion.

DANIEL DRAKE AND HIS FOLLOWERS.

The medical profession of Cincinnati assembled on August 7, 1909, and effected the above organization. The object is to decorate the graves of the eminent medical men buried in and about Cincinnati, to preserve the archives of medicine in that vicinity, and if possible to erect a monument to Daniel Drake, the Father of Western Medicine, other than that most excellent work which has just appeared, "Daniel Drake and His Followers," by Otto Juettner, of Cincinnati. The following officers were elected: President, A. G. Kriedler; Secretary, E. S. McKee; Treasurer, A. G. Drury; Historian, Otto Juettner; Custodian, H. W. Felter.

CINCINNATI ROENTGEN RAY SOCIETY.

At a meeting of the X-ray men of Cincinnati at the office of Harry Kennon Dunham on the evening of August 7, 1909, organized above society. The following are the charter members: H. K. Dunham, Otto Juettner, Sidney Lange, Marion Whitacre, Dudley Webb, Charles M. Paul, Joseph W. Ricker. Dr. Webb was elected secretary. The president is to be chosen at each meeting for that meeting. The society is to be social as well as scientific. It will meet at the residences or offices of its members.

The trustees of the University of Cincinnati have made the following additional nominations in the medical department: Shaler Berry, lecturer on medical jurisprudence; Marion Whitacre, clinical instructor in medicine; J. A. Caldwell, clinical instructor in surgery; Clifford Sater, clinical instructor in diseases of the chest, and A. H. Freiberg, professor of orthopedic surgery and supervisor of clinics.—*Jour. A. M. A.*

G. F. Brubaker, Springfield, is in Europe.

L. M. Early, physician for the State School for the Blind, Columbus, has retired, and has been succeeded by I. B. Harris.

IMPORTANT NOTICE.

A meeting of the Auxiliary Committee on Public Policy and Legislation has been called for Thursday, September 30, in Columbus. Definite notices to members will be sent in due time.

Columbus physicians met recently and made a temporary organization for the purpose of establishing a medical library association. F. W. Blake was made temporary chairman, and Fred Fletcher temporary secretary. A committee was appointed on permanent organization. The plan so far as outlined comprehends the foundation of a thoroughly practical library, devoted more especially to current medical literature.

J. F. Siler, Medical Corps, U. S. Army, and Chief of Dept. of Tropical Medicine in the New York Post Graduate Medical School, has been sent to Peoria, Ill., to investigate the recent outbreak of pellagra.

For thirteen centuries Galen was the only source of anatomy.

Severe chorea has been known to subside after treatment of inflamed tonsils and adenoids.

Do not exclude the diagnosis of extrauterine pregnancy merely because vaginal examination reveals no mass in the pelvis.—*Surgical Suggestions.*

When wet dressings are needed on hairy areas it should not be forgotten that they predispose the hair follicles to infection.—*Surgical Suggestions.*

An amputation for malignant ulceration should not be performed until the possibility of its being a broken down gumma has been satisfactorily excluded.—*Surgical Suggestions.*

An ointment of beta-naphthol 10, sulphur 45, lard 24, and green soap enough to make 100 parts is useful in removing gunpowder not too deeply situated in the skin. It must be employed cautiously, however, to avoid a destructive dermatitis.—*Surgical Suggestions.*

If a peculiar mass is found at the inner side of the ring in the course of an operation for inguinal hernia, do not incise or dissect it before convincing yourself that it is not the bladder.—*Surgical Suggestions.*

Three or four drops of peroxide of hydrogen in the ear, followed five minutes later by a thorough syringing with a solution of boracic acid or bicarbonate of soda, will readily remove impacted cerumen.—*Surgical Suggestions.*

The radiograph of the elbow of a child shows shadows of numerous epiphyses. One inexperienced with X-ray plates is very apt to mistake one or more of these for fractures. When examining the skiagraph of a child's elbow suspected of a fracture or dislocation, it is therefore important to have the normal picture in mind, or, better yet, at hand for comparison.—*Surgical Suggestions.*

DEATHS

R. H. Muhleman, Pulte Medical College, 1877, died at his home in Bellair, July 18, from tuberculosis, aged 58.

Ernest Jacob, Miami Medical College, 1889, died in the Deaconess' Hospital, July 19, aged 45.

S. E. Dyke, Louisville Medical College, 1875, died at his home in Spring Valley, July 27, from organic heart disease, aged 67.

E. B. Fullerton, Starling Medical College, 1866, of Columbus, died suddenly while visiting in Portland, Ore., July 31, aged 66.

J. R. McLeod, Keokuk Medical College, 1877, died at his home in Findlay, June 30, aged 75.

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ORIGINAL ARTICLES

THE APPLICATION AND LIMITATIONS OF BACTERIAL THERAPY.

WILLARD J. STONE, B. SC., M. D.

Attending Physician St. Vincent's Hospital.
Toledo, Ohio.

[Read before the Ohio State Medical Association, May, 1909.]

In discussing the application and limitations of bacterial therapy I shall confine myself to the practical features involved. The theoretic considerations have been so fully dealt with by others that there is no need for repetition at this time. Despite the pessimism always associated with any innovation in treatment, the practical advances of the past four years have been far reaching and of great value in the treatment of many hitherto refractory conditions.

PREPARATION OF BACTERIAL VACCINES.

The usual method followed after standardization of the bacterial suspension is to sterilize it by heat for one hour at temperatures varying from 53-60° C. Some recent experimental work shortly to be published, has, however, shown me that heat killed vaccines require larger doses to bring the same protective response than vaccines killed in other ways. Overheating greatly impairs the immunizing properties of almost all vaccines, especially typhoid, streptococcus, pneumococcus and gonococcus. I am inclined to believe that overheated, and in consequence, non-potent vaccines have been responsible for many unsuccessful results in treatment.

A considerable amount of experimental work has been recently completed with acetozone, alphozone and carbolic-acid killed vaccines. The procedure, as at present used, is as follows; for gonococcus and pneumococcus vaccines the suspension, after standardization, is added without heat to sterile normal salt solution containing 0.30 per cent. acid carbolic C. P. The vaccine is

sterile in 12-18 hours. Staphylococcus and streptococcus vaccines are made up in stock from a number of strains and the suspensions after standardization, added without heat to sterile normal salt solution, containing according to the density of the vaccine, 0.35 per cent. to 0.40 per cent. ac. carbolic C. P. The vaccine is sterile in 36-60 hours. For typhoid preventive inoculations 0.40 per cent. phenolized salt solution is used to kill and preserve the vaccine. A typhoid vaccine so prepared is sterile in three to five days. If a vaccine is urgently required in a given case, one of the stock vaccines is used according to the nature of the infection. By the time the second dose is required the vaccines prepared from the patient's organisms will be ready for use. The dosage required to bring about immunizing response, in vaccine so prepared, is about one-half to one-third the dosage usually employed in heat killed vaccine. Tubercle vaccine is prepared from the stock tuberculin B. E. or the bouillon filtrate (Denys) of Meister, Lucius and Brüning. Dilutions are made in 0.30 per cent. phenolized salt so that each cc. contains 1-2500 mg. and 1-5000 mg. These serve as stock solutions.

STAPHYLOCOCCUS INFECTIONS.

In the localized infections such as acne pustulosa, acute abscesses, phlegmons and multiple furunculosis, the results obtained by bacterial inoculations of a standardized dead suspension of the patient's own organisms are particularly good. Nature's method of defense in any infection consists in bringing to the affected part an abundance of blood and tissue lymph, rich in opsonizing and bactericidal power. This may be accomplished by the hyperemic bandage of Hippocrates and Bier; or after incision, in order to keep the affected area flooded with lymph, by the application of a compress moistened with a solution of a sodium citrate 1 per cent. and sodium chloride 1.5 to 4 per cent. which decalcifies and prevents clotting, and in addition keeps the flow of lymph by osmosis outward. Incision becomes necessary when it is evident that Nature's

*This paper is based upon an analysis of one hundred and ten miscellaneous infections treated during the past twenty months.

endeavor to limit the process is ineffectual in order to promote free transudation of lymph and to evacuate septic material. The use of a vaccine in proper dosage at this stage will augment the protective power of the blood serum. The organisms commonly present in such lesions are staphylococci. Because of the ease with which cultivation takes place on artificial media with little loss of virulence, these organisms can be prepared in the form of a stock vaccine. Better results are attained, in experience, by the use of a vaccine made up from a number of strains isolated from different cases with the same infection, and termed "Polyvalent." It is best when possible to use a vaccine prepared from the patient's organisms.

Not all cases of acne respond to vaccine treatment. Probably none of them satisfactorily re-

been immediately benefited by a few inoculations of an autogenous vaccine.

In one patient, the first in whom I applied the principle of vaccine therapy nearly two years ago, an empyema pleurae following measles was treated by excision of a portion of two ribs and nearly two quarts of pus evacuated. The lung gradually expanded and almost filled up the cavity, which, however, continued to discharge for five months. Antiseptic irrigations were used of all kinds and on several occasions the attempt was made to do away with the tube, but such attempts were followed by rise of temperature and chills. A culture from the wound showed staph. aureus from which a vaccine was prepared. After four inoculations, four to six days apart, the discharge was lessened. After six, the tube was removed permanently with

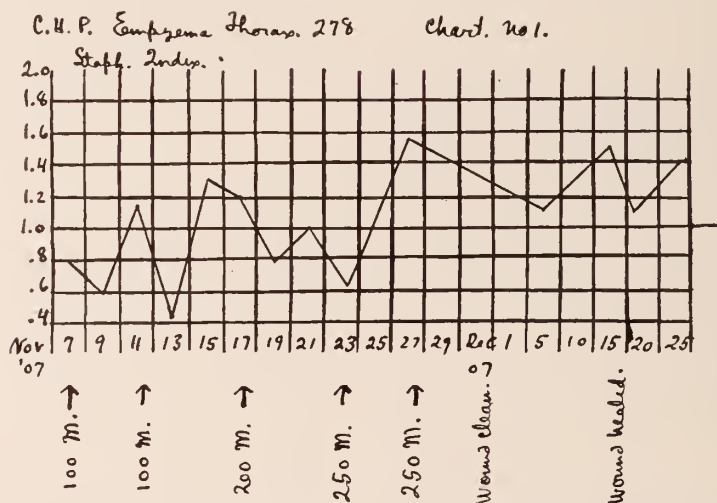


Chart No. 1. Illustrating the negative and positive phases induced by the injection of an autogenous staphylococcus vaccine, and the rise of the curve, as the wound became clean, in a patient after five months drainage from empyema wound.

spond without the use of other adjuncts, such as hot water hyperemia or methods which aim to replace a thickened indurated skin with new; such as irritant ointments to cause exfoliation or exfoliation by eurentage. In over forty cases so treated I can think of but ten or twelve which responded to the vaccine alone, and in these the lesions were chronic but superficial. A large majority of acne cases will be benefited, however, if an autogenous vaccine is used in addition to other adjuncts commonly employed. Not all cases of acne are due to staphylococci. The so-called "acne bacillus" first described by Sabrouaud and latterly by Gilchrist, will be found in some cases with indurated papules and comedones as the chief lesion. In a few cases I have found a pseudo-diphtheria bacillus. They have

prompt closure of the sinus. The patient has remained perfectly well. (Chart No. 1.)

In this connection concerning the use of antiseptic irrigations in infected wounds there is much to be said. Reasoning from our latter day knowledge, little seems to be gained through their use except the mechanical removal of septic material, which can be as well accomplished by the use of a hypertonic salt solution which tends to keep the flow of lymph by osmosis outward. We will, in fact, accomplish much more by abstaining from the use of solutions damaging to the vitality of tissue, blood and lymph phagocytes thrown out in the wound area.

In two cases of staphylococcus sycosis a prompt cure followed two and three inoculations of a polyvalent staph. vaccine. No other treat-

ment was used except daily shaving and a bland ointment. Two cases of acute otitis media with perforation following influenza were apparently benefited by the use of an autogenous vaccine. Both were due to staph. albus and aureus. The discharge which had been profuse for three weeks before the inoculations was absent after two inoculations at five days' intervals.

STREPTOCOCCUS INFECTIONS.

Two patients with streptococcus and streptocolon septicemia have recently been treated by

a history of rigor and temperature of 102° . The lochia was sero-sanguinous, foul in odor and gave in pure culture colonies of hemolytic streptococci on blood agar. Some placental masses and clots were washed out of the uterus and an injection of 50 M. trivalent strept. vaccine was given. The temperature for the next two days ranged from 103° to 104° . (Chart No. 2.) This case was complicated by an infective periostitis and arthritis involving the right humerus and fibula. The temperature from this

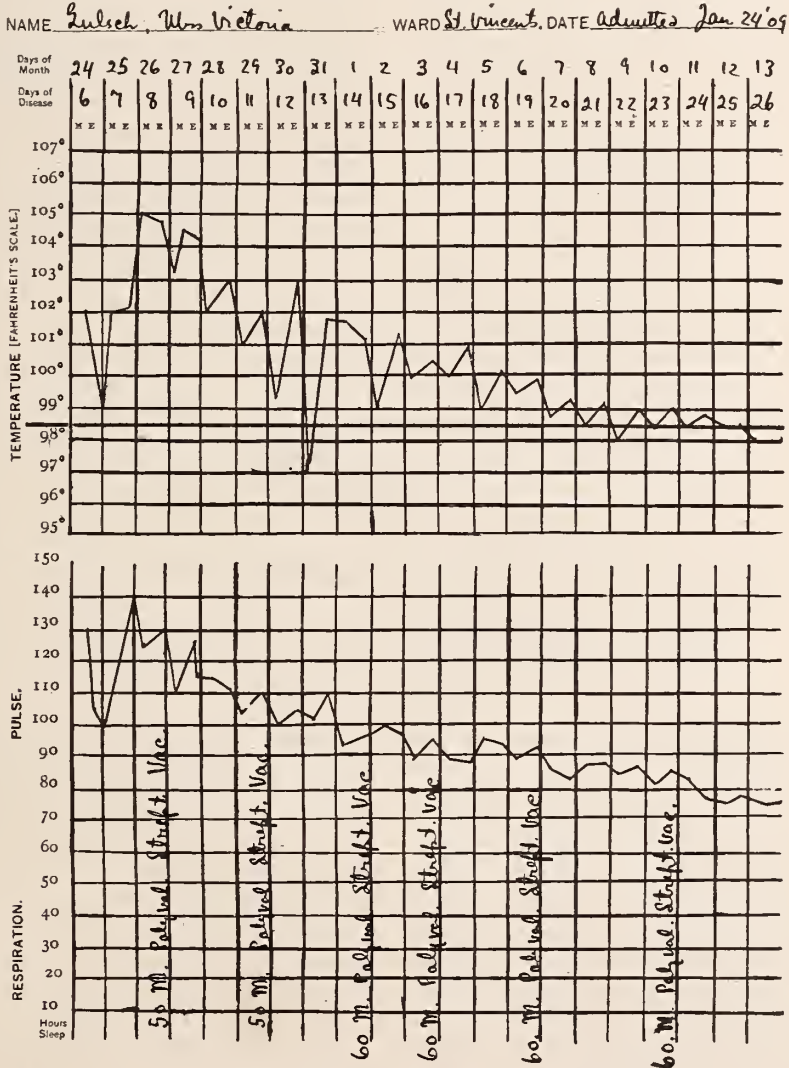


Chart No. 2. Puerperal septicemia (streptococcus) treated by streptococcus vaccine. Recovery.

the corresponding vaccines. In the one, following an abortion between the third and fourth month of pregnancy, the woman was admitted to St. Vincent's Hospital on the sixth day with

time on ranged between 102° and 103° . In all six injections were given.

The temperature reached normal on the seventh day after admission, but occasionally

reached 100-101° during the following three or four days. Her recovery was uneventful. The second case ended fatally. The woman was admitted to St. Vincent's on the eleventh day following a spontaneous abortion between the third and fourth month of pregnancy. The first rise of temperature occurred one week after the abortion and rapidly reached 105° with an occasional chill. Cultures from the uterus showed hemolytic streptococci and a few colon bacilli. A polyvalent strep. vaccine was injected at once and the cavity of the uterus irrigated daily with hot lysol solution. The prostration from the beginning was severe. In all six injections were given, the doses varying between 50-60 M. every second or third day. In addition, five injections of 10 cc. each streptolytic serum were given during the last week of her illness, but without avail. Her death occurred seventeen days after the onset of the illness.

The recent work of Lea and Sidebotham¹ and of Heynemann² serves to bring to mind facts known before but not generally appreciated in reference to the presence of organisms in the cavity of the parturient uterus. Lea and Sidebotham found that in 20 per cent. of fifty-eight cases, hemolytic streptococci were present during the puerperium and yet produced no symptoms, while Heynemann found hemolytic streptococci in the lochia and blood of 17 per cent. of 125 puerperal cases with fever. In Heynemann's series only those patients died whose blood contained streptococci while those from whom streptococci were found in the lochia *but not in the blood*, even though accompanied by high temperature and evidence of serious infection, all recovered. The conclusion reached by these authors is, that the presence of hemolytic streptococci in the lochia or vaginal secretion cannot, in itself, be considered an indication of systemic infection. It is obvious that some cases of apparent septicemia recover without bacterial inoculation, and as stated by Potter³ one must be careful in attributing the cure solely or partly to the treatment employed. The presence of hemolytic streptococci in the cavity of the parturient uterus undoubtedly increases the danger of systemic infection. It is a curious fact that such a comparatively large percentage of parturient uteri with fever contain them and no other serious symptoms follow.

In arriving at a diagnosis, by no cultural methods unfortunately can the virulent strains of organisms be differentiated from the

non-virulent. It is essential, therefore, in order to with certainty obtain the strain doing the damage in septicemias, to obtain the culture for the preparation of the vaccine directly from the blood stream. This is easily done by puncturing a vein with a sterile 2 to 5cc. syringe containing a cubic centimeter or two of sod. citrate or ammonium oxalate solution to prevent clotting. The blood is then inoculated into tubes of sterile broth. If it is not possible to do this, a polyvalent vaccine corresponding to the predominant organisms present in the cavity of the uterus may be used. Probably 70-80 per cent. of puerperal septicemias are due to streptococci, the balance being due to staphylococci or mixed infections of strepto-colon bacilli.

In considering the enormous mortality of puerperal septicemia it goes without saying that vaccine inoculations or any method of rational procedure offering the slightest hope should be utilized. The attempt so often made, however, to transfer active immunity in an animal by means of the blood serum, to a patient in this type of infection leads in a majority of cases to failure. It is one thing to be able to secure active immunity in an animal by the injection of living or dead bacteria, but quite another matter to transfer by means of the blood serum, the protective bacteriotropic and antitoxic elements present in it to the patient. The antitoxic elements alone can be transferred with comparative ease in diphtheria and tetanus since these diseases are essentially intoxications, the result of toxins elaborated by the bacterial cell; while with most other pathogenic bacteria the damage is done not by the elaborated toxins, but by the end products which result from the growth, development and ultimate death of the bacterial cell within the body, the so-called endo-toxins. To protect itself against these endo-toxins the body produces other substances, generally termed bacteriotropic elements, which enter into combination with the elements of the bacterial cell and tend to its destruction. These bacteriotropic elements are, the *bactericidins*, the *bacteriolysins*, and the *opsonins*. The action and effect of these bacteriotropic elements vary with the nature of the infection; for example, the bactericidal and bacteriolytic effects are largely limited to cholera and typhoid, while in other infections, these antibodies may have little or no influence. The agglutinins seem to act only upon certain species of bacteria; while the opsonins, both in normal and immune blood, act upon practically every species of bacteria. There has been much discussion as to the essential differences between

¹Jour. Obst. and Gyn. of Brit. Empire, Jan., 1909.

²Archiv. f. Gynec., 1908, LXXXVI, Hft. 1.

³Jour. Amer. Med. Assn., Nov. 30, 1907.

the toxins and endo-toxins by Pfeiffer⁴, Krauss⁵, Vaughan⁶ and others. The consensus of opinion upholds the belief that the true toxins and the endo-toxins are different bodies and that the protective response of the animal body to the one or the other depends upon the characteristic life history of the infecting organism.

In streptococcus or typhoid septicemia, in tuberculosis, in cholera or dysentery the essential poison is not the result of elaborated toxins due to bacterial cell activity, but rather an endotoxin the result of bacterial cell death. It is not to be expected that good will follow in every case of septicemia treated by bacterial therapy, for much will depend upon the appropriateness

of the well established hygiene of the disease. No fast rules can be laid down as to type or stage of the disease best suited for treatment. Some early apyrexial cases do not respond while other more advanced cases with pyrexia and cavity formation improve rapidly under it.

It is necessary to decide in beginning treatment whether autoinoculations are taking place, as evidenced by persistently high index or by rise of temperature after exercise with depression of the opsonic index (negative phase). If slight exercise causes a rise of temperature with any marked degree of index alteration, or with increase of moist sounds over the affected por-

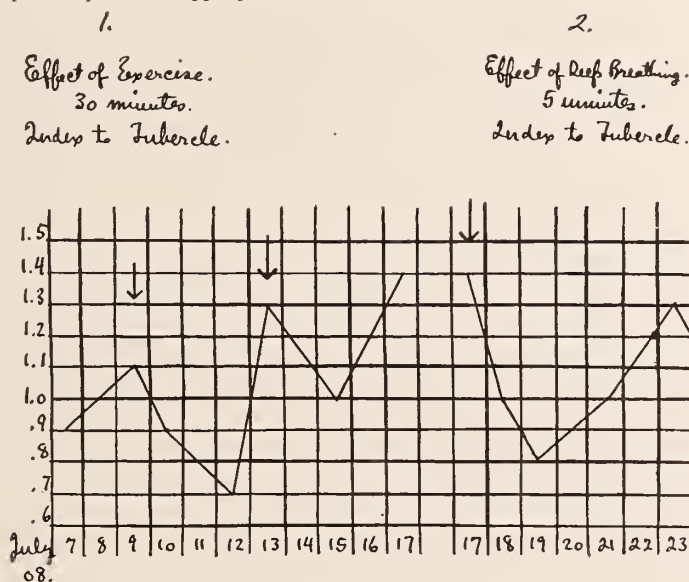


Chart No. 3.

Chart No. 3. Illustrating the negative and positive phases induced (autoinoculation) by 1, moderate exercise, and 2, by deep breathing in a patient with pulmonary tuberculosis.

of the bacteriologic diagnosis, the vaccine, the time of its administration and the general resistance of the patient.

In streptococcus adenitis and sinuses infected with streptococci, primarily or secondarily, good results may be expected to follow the use of a vaccine made from the patient's organisms when properly prepared. The chronic cases do better than the acute in my experience.

TUBERCLE INFECTIONS.

There can be no doubt of the efficacy of well spaced, properly graduated doses of tubercle vaccine in some cases of pulmonary phthisis, when rationally administered and when used as an ad-

dition of the lung, autoinoculation is most certainly taking place. It is evidence of Nature's response to bring about the formation of protective antibodies, sufficient or insufficient as the case may be, to neutralize and destroy the products set free by the overactivity of the affected tissue. If the stage of the disease is not far advanced, the resistance is increased, and if the autoinoculations are properly spaced by control of the exercise, Nature accomplishes what is attempted in vaccine therapy. It is difficult and practically impossible to so control the degree of autoinoculation by exercise, and patients who give evidence of continual autoinoculation should have their amount of exercise restricted which includes deep breathing. (Chart No. 3.) The administration of tubercle vaccine in such cases

⁴Centralblt. f. Bakter., Oct. 27, 1908. (Abst. by V. C. Vaughan, Amer. Jour. Med. Sc., March, 1909).

⁵Ibid.

⁶Ibid.

in just sufficient dosage to bring about a protective response as measured by the opsonic index or by careful observation of the clinical condition, is followed in many cases by improvement.

The only harm that may accrue will result from excessive dosage with too frequent repetition of the dose. The process of immunization should take from six months to a year or longer according to the tolerance of the individual. Attempts to increase the dose too rapidly beyond tolerance will be followed by disaster; but if the dose is gradually increased according to the method of Trudeau,⁷ good results may follow in a fairly large percentage of suitable cases.

In a paper published one year ago, Dr. E. C. L. Miller, of Detroit, and myself⁸ gave certain reasons pointing to the choice of tubercle pro-

B. E. of Koch and bouillon filtrate of Denys.) It is yet too early to speak of the results of this combination treatment. The reports seem to be encouraging, and a number of my patients have improved, but whether the results are better than those obtained through the use of a single vaccine remains to be determined.

Bonney⁹ has given in a recent report the results of treatment in 130 cases of pulmonary tuberculosis by bacterial vaccines. In an analysis of these 130 cases, improvement was noted in 40.8 per cent. The improvement noted in the groups classified as afebrile advanced infection of both lungs, high febrile or septic cases and febrile septic cases with mixed infection, is very striking.

The most favorable cases for vaccine treat-

Patient G. J. 336.
Tubercle Opsonic Index. Rest in bed.

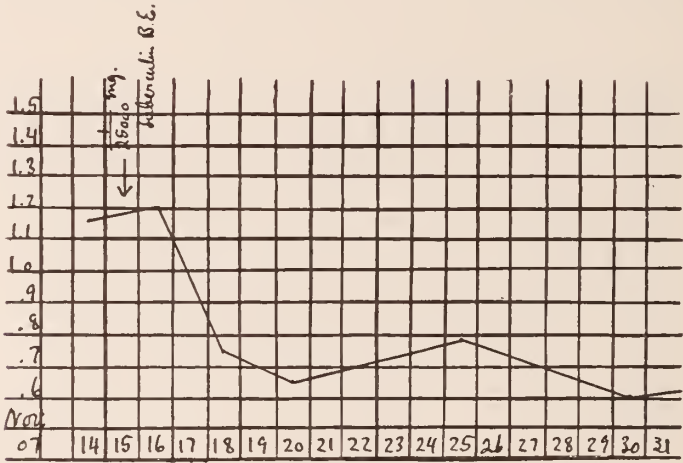


Chart No. 4. Illustrating a prolonged "negative phase" induced by the injection of a minimal amount of tuberculin for therapeutic purposes in a patient with pulmonary tuberculosis.

duct best suited for treatment. We pointed out that the products elaborated by the germ in media were toxin products and as such were theoretically productive, when injected, of antitoxic and not antibacterial immunity. These toxin products are the old tuberculin of Koch and the bouillon filtrate of Denys. We also pointed out that the cell products of the tubercle bacillus, tuberculin (T. R.) and tuberculin (B. E.) were theoretically productive of antibacterial immunity, and that, since in the process of immunization, it is probably more desirable to raise the antitoxic as well as the antibacterial elements in the blood serum, we advocated a combination use of these vaccines (tuberculin

ment are those of chronic type in good nutrition and with no complications; those considered under the head of slowly advancing lung involvement with little or no fever or other evidence of secondary infection in whom due either to an avirulent strain of bacillus or good resisting powers, the progress of the disease is not rapid. The acute early cases with advanced involvement and active symptoms, such as rapid loss of weight and fever, will do better by absolute rest, open air and the usual hygiene of the disease. In beginning treatment of pulmonary tuberculosis the doses can be much better controlled by frequent estimations of the opsonic index.

⁷Amer. Jour. Med. Sc., June, 1907.
⁸Medical Record, March 28, 1908

⁹Clin. applic. of Bacter. Vaccines in Pulm. Tuberculosis. Ann. Report Nat. Assn. for Study and Prevent. Tuberculosis, June, 1908.

In one of my patients (Chart No. 4) a prolonged negative phase followed the injection of 1-25,000 mg. tuberculin (B. E.) which lasted sixteen days. Her dosage finally reached 1-10,000 mg. which for her was the degree of tolerance desired and which amount is usually considered the initial dose. Until the effect of dosage is established by frequent repetitions of the index, one has no other data than the clinical symptoms on which to base judgment, either as to tolerance or frequency. I am aware that many workers have abandoned the index in the routine treatment of patients since its variations are often difficult of interpretation. They place their dependance upon, first, the general suitability of the case as mentioned above, and second, upon the clinical reaction following an injection. There can be no doubt, however, that a few indices in the beginning will give a better understanding of the suitability of a given case for treatment and will aid one in ascertaining whether autoinoculations are taking place or not. Later on, one may depend upon the clinical signs of reaction.

Good results may also be expected in the treatment of tuberculous glands and sinuses. We are all aware of the unsettled controversy concerning the role played by bovine tubercle bacilli in these conditions. Despite the attitude of Koch, who reiterated at the last international congress, his unbelief in the infectiousness of bovine tubercle for man, the general consensus of opinion is against his view. In intestinal tuberculosis, scrofulous glands and in many tuberculous sinuses leading from joints or bone, the bovine type of bacillus has been found. Dowd's¹⁰ recent figures give 31 per cent. of twenty-nine cases of cervical tuberculous glands due to the bovine type. Moss¹¹ has stated that bovine bacilli were demonstrated in 20 per cent. of 306 tuberculous individuals, while the feeding experiments of Vanstenberghe and Grysez have proven that tubercle bacilli were absorbed by the *intact* intestinal mucosa and that extensive deposits were found later in the mesenteric glands, lungs and viscera. This may occur whether the human or bovine type is the infecting agent. Ritchie¹² has recorded undoubted cases of lung infection by bacilli of the bovine type and Grober's demonstration of a direct connection between the cervical lymphatics and the pleura and lungs explains the possibility of lung infection by either type of bacillus by extension from the tonsils. Tuberculin inoculations are of decided benefit in

patients requiring repeated operative procedures for tuberculous glands. (In Dowd's series of 275 cases, 16 per cent. required secondary operations for recurrence.)

In tuberculous sinuses, secondary organisms are almost always present and combination vaccines should therefore be used. In tuberculous sinuses and glands or intestinal tuberculosis, tuberculin B. E. prepared from bovine strains is the vaccine of choice. In tuberculous empyemata the results are often gratifying; in fact, in long standing cases with septic temperature as a result of secondary infection, there remains but little to do medically or surgically. The attempt should be made to raise the general resistance by appropriate vaccines as offering, despite a more or less hopeless prognosis, the possibility of benefit. As an irrigating fluid, if such seems necessary, the hypertonic salt solution 2 per cent. in combination with sod. citrate 1 per cent. seems most suitable.

The use of an autogenous colon vaccine in combination with tuberculin B. E. has been followed in two recent cases of tuberculous cystitis by marked improvement. In both cases blood was present in the urine and the ardor urinae was intense as the result of small punctate ulcers situated near the trigonum. Tubercle and colon bacilli were present in the urine. These patients had resisted the ordinary treatment of silver nitrate irrigations and 25 per cent. argyrol instillations, with urotropin internally. After three inoculations at 4-5 day intervals the blood disappeared from the urine and both patients were able to hold the urine two or three hours. The rapid relief was probably due to clearing up the colon infection. Tubercle bacilli are occasionally found in the centrifugated urine of one, but have not been found in the last three examinations in the other. These patients are now receiving inoculations of tuberculin B. E. twice monthly. Favorable results have been secured in tuberculous peritonitis by the administration of tuberculin by Wright and others. In some cases the good results which have followed laparotomy were probably to be ascribed to the removal of accumulated inactive lymph and its replacement, as a result of the autoinoculation induced by the operation, with fresh lymph richer in opsonin.

GONOCOCCUS INFECTIONS.

Any one who has treated any number of cases of gonorrhoeal vulvo-vaginitis in children realizes how difficult, prolonged and unsatisfactory the treatment is apt to be. The ordinary procedures, daily bichloride or lysol douches fol-

¹⁰Surg. Gyn. and Obst., March, 1909.

¹¹Bull. Johns Hopkins Hosp., Feb., 1909.

¹²Lancet, Nov. 16, 1907.

lowed by swabbing the entire surface of mucous membrane with 25 per cent. argyrol or 1 to 2 per cent. silver nitrate solution or, if the child is not too small, insufflation of nargol or protargol power into the vagina (after the method of Dr. Robert S. Walker) has been followed, in my hands, by bacteria-absent smears only after prolonged treatment. The use of a polyvalent vaccine grown for some time on artificial media has seemed to materially shorten the disease. Vaccines prepared from freshly isolated strains of gonococci do not seem to give as good results as older strains and there appears to be no advantage gained from the use of an autogenous vaccine. The good results obtained by But-

cococic serum used by insufflation in the vaginal folds with good results. Smears were negative at the end of three weeks; lysol douches were used daily. It is possible on the same basis that the insufflation of dried normal blood serum might be beneficial in the treatment of infected wounds in other localities.

I have recently treated three patients with gonorrhoeal inguinal adenitis by the injection of a polyvalent vaccine. One patient had been operated twice for suppurating glands and part of them were removed each time. The remaining glands had subsequently become indurated, enlarged and discharged a secretion, cultures from which showed a secondary infection with

S. M. arthritis ankle.
Opsonic Index to gonococcus.

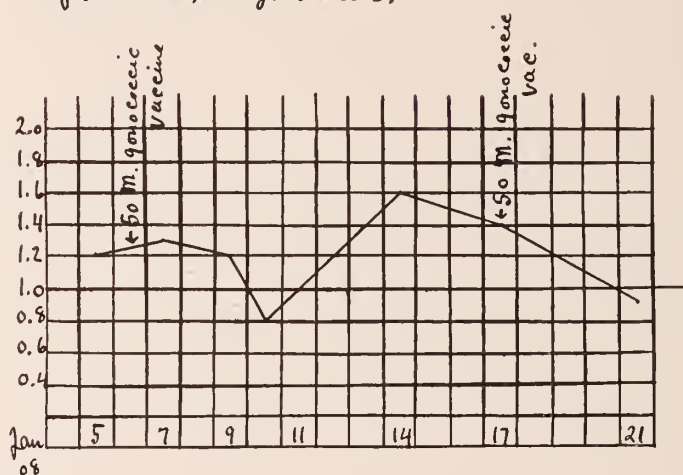


Chart. no. 5.

Chart No. 5. Illustrating the typical "negative" and "positive" phases induced by the injection of gonococcus vaccine for diagnostic purposes in a case of arthritis of ankle of questionable origin.

ler and Long¹³ and by Hamilton and Cook¹⁴ are worthy of mention. Acute cases of gonorrhoeal vulvo-vaginitis improve more rapidly as a rule under vaccine than those who receive the ordinary routine treatment. The best effects are to be excepted in chronic cases. The opsonic index is not essential to treatment.

Since the natural history of gonorrhoeal vulvo-vaginitis depends upon the activity of phagocytes in the exudate, any means of rendering the cocci more capable of phagocytosis or of locally stimulating the phagocytes to greater activity, might shorten the disease. I have recently treated one patient with a powdered antigono-

staph. aureus. A combination vaccine was used; the glands were much reduced in size after four injections and absent after six. In two other patients, the glands were enlarged to egg size, but were much reduced and the discharge absent after six to eight inoculations.

The dose of vaccine depends upon the amount of the clinical reaction obtained. In gonorrhoeal arthritis this reaction consists of slight rise of temperature and malaise with increased tenderness and pain in the affected joints, lasting six to twenty-four hours after an injection. The best results are apparently obtained when the dose is large enough to produce a slight reaction. I have rarely exceeded 25 M. with the strains making up my vaccine, but Cole and

¹³Jour. Amer. Med. Assn., March 7, 1908.

¹⁴Jour. Infect. Dis., 1908, 2, p. 158.

Meakins¹⁵ have used from 300 M. to 1200 M. in gonorrhoeal arthritis, while Irons¹⁶ has used 20 M. to 500 M.

The "gonococcic reaction" is of value in differentiating a gonorrhoeal joint from gout, rheumatic arthritis or tuberculosis. (Chart No. 5.)

INFECTIONS WITH *B. COLI COMMUNIS*.

I have recently treated five infections following appendicitis due to the colon bacillus in which the wound area was either soiled at the time of operation due to the rupture of an adherent and fragile appendix or previously. Each of the patients was discharged with the wound healed on an average three and one-half weeks after operation. The purulent discharge was in each case profuse but was lessened after the second inoculation with a vaccine prepared from the patient's organisms and begun as soon as possible after the pus appeared. The dose varied from 30 to 50 m. every third day. Dr. Peter Donnelly has given me the figures of twenty-five cases with wound infection treated in the same institution and under similar conditions, but without vaccine. The average duration of their stay in the hospital was approximately six weeks as contrasted with three and a half weeks for the five patients treated with vaccine.

The success of the treatment in one patient is worthy of mention. He had been operated eight weeks previously for appendiceal abscess in a distant city. Following the operation there was a purulent discharge for six weeks when the wound closed and he was allowed to leave the hospital. Shortly afterward the wound opened. At this time pus and gas were discharged from the wound. A small perforation of the bowel at the bottom of the wound had taken place. Pus also appeared in the urine, due to bladder infection from the abscess, and the bowel evacuations contained pus. A pure culture of the colon bacillus was obtained from the wound. An autogenous vaccine was made and an inoculation given every three to four days. After the second inoculation, the pus was diminished in the urine and from the wound. After three inoculations the wound was surgically clean; gas was no longer discharged and the wound soon healed. In all four inoculations were given and the patient has remained well.

In cystitis due to the colon bacillus, so common in women, the results in three cases have been gratifying. One case cleared up after two inoculations. She had previously been treated by bladder irrigations and instillations with little improvement during three weeks' treatment. In one patient with a fecal fistula following a lat-

eral ileo-colonic anastomosis in which an autogenous colon vaccine was used, the results were not satisfactory. The leaking point in the bowel was so large as to constantly allow reinfection. In two cases of rectal fistula a colon vaccine was tried, but the results were negative because of constant reinfection.

PNEUMOCOCCUS INFECTIONS.

In a self-limited acute disease like pneumonia it does not appear that much can be accomplished by specific bacterial treatment. It "unresolved" pneumonia the use of a vaccine prepared from virulent organisms isolated from the blood may be followed by good results. Pneumonic empyema-pleurae usually promptly get well by drainage, many of them by aspiration, but if complicated by secondary infection an appropriate vaccine will shorten the period of suppuration. In one patient with chronic frontal sinusitis and chronic empyema of the antrum due to the micrococcus tetragenous and the pneumococcus, in which an autogenous vaccine has been used, the results have not been perceptible.

In long standing infections of this nature the lining of the cavities has become so altered through the formation of granulation tissue low in vitality, the so-called "pyogenic membrane," that it is difficult to bring to the area involved a sufficient amount of opsonin-containing blood. Likewise, in septic sinuses leading from a portion of necrotic bone, while the condition may be improved and the discharge of pus lessened through the use of a bacterial vaccine, little more than an amelioration of the symptoms may be expected until the necrotic bone is removed.

TYPHOID PROPHYLAXIS.

The work of Wright in immunizing British soldiers during the Boer war, and of Leishman, Harrison and Grattan¹⁷ has shown favorable results. The recent figures of Leishman and of Luxmore¹⁸ are especially convincing. In localities where the disease is endemic, or for those constantly exposed to infection, such as nurses or physicians, or for "typhoid carriers," the injection of typhoid vaccine in doses of 1000-2000 M. is followed by a corresponding increase in resisting power lasting from a few months to six years. No harm is done by the injections and since there is the possibility of protection, the method has a decided sphere of usefulness.

CONCLUSIONS.

1. Stock polyvalent vaccines, not overheated in preparation, are of marked value in the treatment

¹⁷Jour. Roy. Army Med. Corps, 1905; May, 1907; June and October, 1908.

¹⁸January to June, 1907.

¹⁵Johns Hopkins Bull., 1907, 18, p. 223.

¹⁶Jour. Infect. Dis., 1908, 3, p. 279.

of staphylococcus and gonococcus infections especially of chronic type.

2. Personal homologous or autogenous vaccines give better results in streptococcus, pneumococcus and colon infections, although heterologous vaccines may be used in some instances with marked success.

3. The opsonic index, although representing but one of the phases in the immunizing or reactive response of the body fluids is useful in the diagnosis of obscure infections. In tuberculosis the index is of decided value, in addition to the clinical signs of reaction, in determining the proper dosage of tuberculin for treatment in any given case; and in estimating whether autoinoculations are occurring or not.

4. Proper attention should be paid in vaccine therapy to a normal supply of blood and tissue at the area of infection. Septic material should be evacuated, necrotic bone removed and sinuses lined with granulation tissue, low in vitality, should be curetted.

5. Due attention should be paid to secondary organisms in directing treatment against any primary infection.

6. Non-heated vaccines sterilized in 0.3 per cent. to 0.4 per cent. acid carbolie produce the same immunizing response and in smaller dosage than heat killed vaccines.

The charts illustrating this paper show:

1. Opsonic index and results in patient who had been operated on five months previous to opsonic treatment for empyema.

2. Opsonic index in case of ankle arthritis—gonococcus.

3. Effect of exercise and deep breathing in tuberculous patient, showing alteration of opsonic curve.

4. Showing temperature and pulse chart of patient inoculated with streptococcus vaccine in a case of septicemia after a spontaneous abortion between the third and fourth month of pregnancy with recovery.

In connection with the next chart shown, No. 5, the speaker remarked: "We often read in pamphlets sent out by manufacturers of tuberculin that the initial dose should be about one ten thousandth of a milligram. This is not always good advice; in fact, one cannot tell in any given case what dose to give until they have made an opsonic index and learned the effect of any given dose upon the patient. Here is a case of a patient resting in bed and given a dose of one twenty-five thousandth of a milligram. A prolonged negative phase resulted, lasting sixteen days. One cannot always go by the rule that the index is unnecessary for the determination of the proper dose in any given patient.

The Colton Bldg.

DISCUSSION.

Oscar Berghausen, M. D., Cincinnati: I wish to congratulate the essayist upon the excellency of his paper, and to state further that my results have been practically the same as his in this line of work. The doctor has laid considerable stress upon the special value of the opsonic index in determining the size and interval of dosage. Early in the treatment the index determination can be of distinct importance especially in mixed infec-

tions when you wish to determine which organism is the chief underlying factor. In practice it will often be found impossible to judge the injections throughout the course of the disease by the index determination alone. My results in acne have been about the same as his. Certain chronic indurated forms yield very slowly, even though local measures be used in addition. Recent results would tend to show that by using vaccines prepared from the acne bacillus of Gilchrist, better results can be looked for in the future. Tuberculosis, especially the glandular type, and in the young, responds quite readily. When the glands break down it becomes necessary to use the autogenous vaccine prepared from organisms isolated from the wound.

Success to a great extent, is dependant upon the correctness of your bacteriological examination. In many cases the ever present staphylococci will conceal the underlying organisms. The possibility of an underlying tuberculous condition must be taken into account. I again wish to thank the doctor for his excellent paper.

Dr. Tracey, Toledo: I would like to ask the doctor one question as to how long the immunization lasts after treatment by inoculation?

J. H. Lowman, M. D., Cincinnati: It seems to me that in tuberculosis it would be extremely difficult if we are compelled to have recourse to an opsonic index rather than to general clinical conditions. It showed that there was a long continued negative phase during which time it was extremely dangerous to interfere. I think that when there is rising fever we can usually depend upon the clinical aspects. I am sure that in the Adirondack work they do not do any opsonic work after the injection. They go for months and months without any special laboratory work. I am sure I do not think the laboratory work is absolutely necessary. Occasionally it may be done as a matter of general interest, but if it is to be undertaken systematically it is simply an impractical thing unless you are connected with an institution or unless you are yourself a bacteriologist, or unless you have a bacteriologist in your pay—a combination that is not frequently found. Therefore it is impossible for the physician to do that work unless he is in close association with some one who does the other work also. I think the men who are doing the work certainly do give tuberculin without testing it by any opsonic work. I should like to know how Dr. Stone feels about that. I am sure that his statement was very strong.

W. J. Stone, M. D., Toledo: In reply to Dr. Tracey's question regarding the duration of immunity following injections for furunculosis, I will say that I do not know that there is any definite information available on that point. The immunity usually lasts two, three or four months. Sometimes the furuncles never recur; or if they do, an injection of one or two immunizing doses of vaccine promptly clears them up. I do not think that I have had over one or two cases that recurred in probably over fifty so treated.

As to Dr. Lowman's question regarding the opsonic index in tuberculosis, I quite agree with him that if every time one gave an immunizing

dose of tuberculin to a patient one had to take an opsonic index before they gave that dose, or afterwards, that they would have a very large job on their hands. But I do maintain in beginning treatment that it is necessary to establish the size and interval of the dose. Dr. Lowman I see follows the method of treatment of Trudeau in which the dosage is gradually increased up to many times the initial dose. If one-thousandth of a milligram is sufficient to bring about an immunizing response with a negative and positive phase following, I see no reason for increasing beyond that dosage. Each physician should form his judgment upon individual conditions. I have changed my views regarding the increase of dosage of tubercle products since the publication of a paper on this subject by Dr. Miller, of Detroit, and myself one year ago. I have several times witnessed unfortunate reactions following the injection of a large amount of tuberculin; that is to say, of one milligram or one-half a milligram. Inasmuch as doses up to one-thousandth of a milligram are capable in many cases of producing proper effect, I have never exceeded it. Last summer in Wright's laboratory I found in many cases not over one four-thousandth of a milligram was administered; and when that quantity is sufficient I see no reason for exceeding it.

TRAUMATISMS OF THE SACRO-ILIAC JOINT AND SEQUELAE OF SAME.

ROBERT CAROTHERS, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

The pelvic girdle or pelvic arch is the bony outlet of the body and also the connecting link between the body proper and the lower extremities. To it are attached the principle muscles of the trunk and abdomen as well as the muscles which move the thigh. On either side are the innominate bones attached in front at the symphysis pubes; a joint which is shallow, not very well supplied with ligaments and not at all protected by muscles.

Behind and between the innominate bones is the sacrum, which looks not unlike and really is the keystone of the arch of the body.

The sacro-iliac joints, on either side and joining the sacrum to the ilia, are large, broad and flat, well supplied with strong ligaments and well protected by overlying muscles.

The joint known as the symphysis pubes is without motion except in a very slight degree and that mostly in a sliding up and down motion, and when there is also motion in the sacro-iliac joints. This slight motion at the symphysis pubes and the small part it has been shown to play in labor has undoubtedly been one cause for the abandonment of the operation symphysiotomy,

together with the fact that the operation increases the motion of the sacrum through the sacro-iliac joint which is said to be an impediment in labor.

To prove that the sacro-iliac joint has normal motion, at least in some slight degree—a fact not given by most anatomists—the following experiment has been made.

Both extremities are removed from the body of a cadaver at the lumbo-sacral joint. The pelvic contents and all soft parts above the brim are removed. A nail is driven into the rim of the ilium on either side of the sacrum exactly parallel to each other and also parallel to two nails driven into the upper border of the sacrum. The pelvis is now fixed to a table by bolts through the sacrum so that the sacrum is absolutely immovable. The extended leg or legs are flexed on the pelvis. The hip joint will now move as far as it can until the ham string muscles become so tense that the hip joint motion is no longer possible, the joint motion is then transferred to the sacro-iliac joints which is proved by the nails in the ilia being on a lower plane than the nails in the sacrum.

The sacro-iliac joint is a true joint known to be subject to the same diseases of other joints and movable ordinarily in a slight degree. What, then, are the injuries of this joint?

1. Wrench or sprain.
2. True luxation.
3. Relaxation or looseness.

The wrench or sprain is caused by an injury such as being thrown in a twisted position, sitting down forcibly, efforts to catch one's self in falling when a severe strain is put on the back, an overtaxing of the back in an effort to carry too heavy burdens.

In these cases the symptoms present themselves acutely and are attributed usually to the back. Not infrequently called lumbago. Pain is severe, causing the individual to walk with difficulty and in a stooping posture, or to be entirely incapacitated and confined to bed. There is a decided limitation of motion in the back and all efforts to do so increases the pain. Pain in the thigh or leg is complained of and when in the posterior position it is called a traumatic sciatica. Two cases illustrating this class are here given.

A doctor from one of the adjoining counties brought a case to the author for diagnosis. He (the doctor) was bent almost double and complained of severe pain in the back, attributing his suffering to a lumbago which he had caused two evenings before by an effort to save a fall when he slipped on an icy pavement.

An examination disclosed the fact that the lumbar muscles were not at fault, but that his

injury was a sprained sacro-iliac joint. Adhesive plaster strapping gave great relief and after a period of some three weeks effected a cure.

A freight handler in one of the freight depots was thrown in a car which was violently bumped by another runaway car coming down an incline. He was picked up by fellow workers and removed to the Good Samaritan Hospital where he came under my care. The pain in his back was severe, also pain down the back of one leg. A test examination disclosed a sprained sacro-iliac joint of a severe degree. He was confined to bed with two pillows in the small of his back for a week, then adhesive straps were applied and worn for some six weeks, after which time a properly fitting elastic belt was given him, and at the end of eight weeks he returned to work as a freight handler.

The sub-luxation cases are quite rare and are caused by some very severe accident which has brought a very decided and great force on the lower portion of the spine centering on the sacro-iliac joint. The pain in such accidents is very severe and the individual is wholly and totally disabled.

A correct diagnosis is sometimes confirmed by an X-ray plate, although the X-ray has not given as much assistance in this condition as it has in other dislocations. The rectal examination with the other tests being of more value.

About a year ago a case came into the orthopaedic service at the Cincinnati hospital. He was a bridge worker thrown some distance off a bridge on which he was working. He fell in a sitting position sustaining a luxation of the left sacro-iliac joint. The diagnosis was confirmed by X-ray examination, but before any efforts at treatment could be instituted he was removed by friends to his home and has since been completely lost for any scientific advantages.

The relaxed or loose sacro-iliac joint, not a true trauma, but practically so, is the most common, the least often recognized and from this fact and that the symptoms are not ordinarily so acute, but more lasting, it is more difficult to treat. When these patients present themselves they are confirmed neurasthenics, many times adding greatly to the task in treatment.

They are the so-called loose jointed people with the characteristic weak back, associated often with flat feet and relaxed knee joints—possibly the forerunner and partly the cause of the loose sacro-iliac joint. In standing they are very apt to assume awkward positions drooping forward or often hold the hip with their hands for support to the back. In the sitting posture they are apt to lounge or if convenient a sofa pillow is

pushed into the hollow of the back for support. In rising from the sitting to the standing position they lift themselves with their arms and hands placed on the arms of the chair, which, in turn, is the cause of flat hands and loose elbow and shoulder joints—then the cycle of loose jointedness is complete. If there be loosened and relaxed sacro-iliac joints, there is then a weakness of the muscles attached to the pelvis. The same condition is seen in the muscles of the leg associated with flat feet. Again in weakened abdominal and back muscles the converse is true—relaxed sacro-iliac joints.

Goldthwaite has suggested that this condition is the forerunner of ptosis of abdominal and pelvic organs. He explains it in this way. If the bone and muscles to which the ligaments are attached become weakened and thrown out of equilibrium by awkward position of the body, then the ligaments are allowed to stretch and in that way the organs are allowed to sag. When once this sagging is allowed to commence and the abdominal muscles no longer give their support, it is said to continue.

This idea would seem to be as yet entirely theoretical and not borne out by clinical findings, but it does appear to be a hint well worth the consideration of both the medical adviser and abdominal and orthopaedic surgeon.

The morning backache and the post operative backache are explained by the loosened sacro-iliac joint.

Put an individual on his back on a hard table for an hour or two under an anesthetic. The small of the back is allowed to sag, the muscles are relaxed by the anesthetic and the sacrum is loosened between the ilium. This patient is then put to bed in the same position without support to the back, and the backache at time is very severe.

The morning backache is explained in the same way, but is not so conspicuous and is relieved very much by the upright position. The remedy is a support in the hollow of the back during and after operation.

We all recall the backache from stooping a long time over a low operating table. In fact any long continued position of lying, stooping, standing or sitting will produce an increased strain on muscles which in turn cause a strain on ligaments, and when the back is the part involved the sacro-iliac joint is the one which suffers and becomes loosened and painful.

Under physiologic conditions during the pregnancy the sacro-iliac joint becomes relaxed at times, this is severe during the latter stages of

pregnancy causing the vague pains so often met and demand treatment.

After parturition the loose joint may continue and give rise to a degree of weakness and suffering which is severe.

A diagnosis of sacro-iliac insufficiency or injury is based on the following tests and symptoms:

Inspection of the back will not infrequently show a diminution of the anterior curve of the lumbar region and a prominence of the upper end of the sacrum with this is a more or less flatness of the buttocks; or, rarely, the reverse will be present, an increase of the anterior curve of the lumbar region and an increased prominence of the buttocks and the lower portion of the sacrum.

Pain is always a prominent symptom either directly at the joint itself or in the region of the joint—occasionally in the back above the joint on one or the other side simulating a lumbago, but more frequently down in the legs. This is explained by the close proximity of the sacral and lower lumbar plexus of nerve to the anterior ligament joining the sacrum to the ischium so that any injury tending to tilt the lower part of the sacrum forward would cause pressure of this ligament on these nerves, producing an irritation of the same to be reflected along the course of some special nerve or the whole trunk down the leg. Pressure directly over the nerve trunks failing to elicit local pain and movements of the joint increasing the pain in the legs and also pain at the joint would eliminate a neuritis. Any movements of the joint are followed by an acute outery of pain. The pain is increased at night, and in the milder cases of relaxation the patient may be comparatively free of pain all day, but when in bed with all muscular support relieved there is a decided ache in the legs and back.

Limitation of motion, associated with pain, is probably the most important sign we have. If the individual under examination, in a standing position with the legs stiff, is required to bend forward at the waist, the movement in the spine is without pain until the motion at the sacro-iliac joint is produced, then pain is complained of. Now have the patient sit down in which the position of the ham string muscles is relieved and the forward movement of the body is effected without pain, because when the spinal motion is complete the hip joint motion allows a continuance of the forward movement of the body. This also rules out a lumbago since the lumbar muscles are not stiff and are freely movable.

Put the individual on the back and flex the

extended leg on the abdomen; in the healthy person the leg can be brought beyond a right angle and not cause pain. In one suffering from sacro-iliac strain or sprain the leg cannot be brought to a right angle before pain is complained of at the sacro-iliac region or along the course of the sciatic nerve. Flex the leg on the thigh in the same case and the leg can be flexed well onto the abdomen without producing the least pain.

Mobility.—In the relaxed and loosened cases there is, varying in degree, some perceptible mobility at the sacro-iliac joint. This is best determined by placing the hands on either side, and the thumbs on the sacrum. Now produce an up and down motion of the ilia and in many cases there is perceptible movement of the ilia.

Rectal examination will not infrequently elicit a tender point on either or both sacro-iliac joints. At times, in the case of a luxation, a displacement at the joint can be determined in this way and will give to the finger the sensation of a step off from the displaced to the other bone, not a smooth surface such as is found in the normal joint.

It is to be differentiated from a sciatica by an absence of pain on pressure along the sciatic nerve and the presence of the signs above given of a sacro-iliac injury. In the same way it is to be differentiated from a lumbago by the absence of pain on pressure over the lumbar muscle, free motion of these muscles, and the presence of the signs of a sacro-iliac injury.

The principles to be followed in the treatment are: In mild cases of relaxed sacro-iliac joints the treatment would be directed, not so much to the joint itself, as it would be to the muscular improvement of the body, especially to the back, abdominal and leg muscles, and the support of the joints by encouraging the erect posture in standing and sitting, and discouraging drooping or lounging. A pillow in the hollow of the back, when sitting or in bed on the back, is a simple and real support. Massage, properly given, and directed exercises, stimulating baths and electricity in such cases does improve muscle tone and adds materially to retention thereby of a relaxed joint. If associated with flat feet, the feet should be properly treated for that condition. In the more severe cases the above methods are adopted, but are not sufficient to effect real relief. Then some retention apparatus is necessary, and probably the simplest, is the adhesive plaster. One-inch adhesive plaster straps reaching from the extreme upper portion of the thigh or trochanter on one side to the lower ribs on the other side, crossing the sacrum diagonally first from right to left, then from the left to right or vice versa,

allowing the straps to slightly overlap and continued until some eight or ten straps on each side have been applied.

These straps are reinforced by straps of the same width which cross the pelvis, at right angles, from about one inch in front of the trochanters, and extend from the trochanters to a point some two or three inches above the upper border of the sacrum.

When the straps are being applied, the patient, of course, is on the abdomen and a slight hammock effect is desirable. When properly applied, the adhesive straps give decided support and can be worn for a period of from four to eight weeks.

If, for some reason, adhesive straps are not well borne, do not give sufficient support, or after being worn for some time it is desirable to make a change, then a good support can be made of elastic webbing. In the male, take two strips about four inches wide and long enough to reach around the pelvis and meet in front. They will overlap in front, but spread out behind, yet always have at least some overlapping throughout the entire length. After being securely stitched in front and buckles and straps applied to secure and hold the band, the remainder is held, as well as reinforced, by feather bone stitched to the outside of the band. Care must be taken that the band shall secure the trochanters and to avoid rubbing, not to extend above the rim of the pelvis.

In the female this same elastic webbing is added to a moderately long corset and tightly drawn with the corset around the pelvis.

In the severe cases some mechanical brace will be necessary. It should be devised with especial reference to securely holding the pelvis, grasp the trochanters and make some pressure on the sacrum. Then extended up on to the back and chest like any ordinary spinal brace.

The plaster jacket is applied in the hammock or in the frame depending upon the demands of the individual cases. It is to be remembered, however, that the jacket is to extend lower than the ordinary jacket and get an attachment to the trochanters. While such a dressing might theoretically be an impediment to locomotion it, in reality, interferes very little.

In the cases of sprained or wrenched sacro-iliac joints especially when at all severe, rest on the back with two pillows in the hollow made by the lumbar curve, is, for a few days or a week, very effective in giving comfort and producing a desirable result. During this time the patient can once or twice a day be turned over and be

much benefited by massage and hot applications. Following a few days of this treatment, the application of adhesive straps or an elastic band is to be done and the patient allowed to be up and move about. In such cases, exercises, if slowly and gradually increased, are of benefit.

The treatment of this class of cases is much the same as a sprained ankle. Keep them on the move and a cure will much the quicker be the result.

In the very severe cases of sprain when there is some displacement of the joint or in the cases of sub-luxation, the object is to reduce the luxation. This is not always easily accomplished. Manipulation is probably the first method to be tried. With the patient on the back and the leg extended, by flexing the extended leg into the abdomen, the ilium may be carried back to meet the sacrum; or, with the patient on the abdomen the thigh is to be slightly adducted and extended and through the ligament the ilium may be pushed forward to meet the sacrum. If necessary, and usually it will be, an anesthetic is to be given. Another method is to let the pelvis sag between two tables on which the body and legs have been rested and allow the weight of the body to pull the ilia down. Another is to place the patient on a Metzner-Goldthwaite frame with rods well bent, the convexity applied to the sacrum, and allow the weight of the body to push the sacrum forward. When once the correct apposition of the sacrum to ilia is effected a plaster of paris jacket is to be applied and worn for several weeks, this is to be followed by an elastic band to be worn much longer and during this time such other methods of treatment as may seem necessary can be instituted.

The prognosis of a sacro-iliac relaxation or injury depends on many things. The chronically relaxed cases are the most resistant to treatment, and in some cases, some kind of support is to be worn indefinitely. The acute sprains when not too severe respond readily to treatment and are quickly relieved.

The severe sprains and sub-luxations when properly cared for will, in all cases, after a time, be restored to the normal, but when neglected or improperly treated, they become chronic. The length of time it will take to effect a cure will depend on the individual temperament of the injured, the treatment, and in some cases the decision in a pending damage suit.

SUMMARY.

1. That the sacro-iliac joint is a true joint and normally has motion.
2. That it is subject to the same injuries, to

wit, relaxation, sprain and luxation that other joints have.

3. That these injuries are not infrequently diagnosed sciatica or lumbago.

4. That when recognized and treated they respond to treatment, but when allowed to go these patients become very neurasthenic and are troublesome.

5. That the literature on this subject is to be found in Hilton's *Rest and Pain* in which he described sixty years ago this condition almost identically as it is given today and Goldthwaite's writing in the American journals.

DISCUSSION.

Charles McClure: The hour is so late that I will not attempt to add anything to this paper, but confine my few remarks to emphasizing some of the thoughts the doctor has brought out in his paper. In the beginning I want to emphasize particularly the need of a more thorough knowledge of the structures of the pelvic articulations, for it is all important from the standpoint of diagnosis. The doctor very justly gives credit to Hilton for priority, but I am of opinion that too much credit cannot be given to Goldthwaite, of Boston, for his work along this line. Prior to four years ago, when they published their investigations, very little was known as to what conditions might arise from injuries of this region.

One fact the doctor did not bring out in his paper which explains some of the symptoms arising is that the lumbo-sacral cord passes directly over the upper surface of these joints, so that when any displacement or relaxation occurs, it permits the edge of one of these bones to impinge and press upon this cord, thereby giving rise to all those irritative symptoms in the distribution of the nerve, which the doctor has so well described. Thus it is that so many of these cases have been diagnosed as sciatica, in which all the cardinal symptoms were present, but when the ordinary measures of relief for sciatica were instituted, the results did not obtain. They do not respond simply because the basis of the trouble was not understood until these men described these conditions and brought them before the profession in a way that they could understand them, so that we could hardly expect any other results.

Now when these cases come to our notice, and we can trace them back to a definite injury, we will be led, I am certain, to investigate the condition of these articulations, and if any relaxation or subluxation is present, or tenderness is present, the measures of relief described by the doctor will be instituted, and we will get relief. This paper has been very thorough, and I want to congratulate the doctor on the thoroughness with which he has handled the subject.

Dr. Monger: I am the case the doctor referred to; there are one or two points in connection with the study of my own case that are of interest. On January 2 of last year I received a slip, carrying a heavy company case, and I felt something give way in my back, but felt no pain. Two days afterwards the house of delegates met in Columbus, and I had to attend the session. When I got there I was in a miserable shape, and I put in a miserable day. I took sodium salicylate as

well as the other anti-rheumatic remedies, and supposed I had lumbago. I came back, and soon afterwards came down to Cincinnati with a patient in consultation with the doctor, and he found me at the Good Samaritan Hospital. He strapped me up, and I did very nicely. In August I had another attack which incapacitated me for a month. The interesting point is this. You receive an injury—this last attack the trauma was sustained on Saturday, and I had the attack on Tuesday following—you receive the injury, and at the time there is no very great pain. I believe a great number of these cases are treated for lumbago, when, if you go into the subject thoroughly, you will get a history of injury.

Another point of great practical importance is that rotating the toes well outward when you put on your plaster. It seems that the gluteal muscles hold the joints tighter.

Dr. Freiberg: I think that any man who draws the attention of the profession to this subject is conferring a distinct service. Although this is being done by a number of publications, yet, at the same time, we find the profession fails to consider the matter very carefully, so that when a case comes before them he is only too apt to overlook its nature altogether. I suppose the reason for this is to be sought for in the fact that in all of the older anatomies the sacro-iliac joint is described without function as a joint. As a matter of fact, in a very considerable number of cases we find this is not so. Tuerck, in his *American Anatomy and Physiology*, has gone into this subject very carefully, and has come to the conclusion that in 30 per cent. of all cases the sacro-iliac is no joint, has no synovial lining, but in the other 70 per cent. we are dealing with a joint that has a synovial lining, has considerable movement, and a joint whose integrity depends chiefly, if not entirely, upon its ligamentous support and not upon the bony structure of the joint. This lays this joint open to the injuries just described. They have been described long ago, as the doctor mentioned in his paper, and as I had occasion to present in a paper on this subject last year by Hilton in that remarkable book of his. I think there is no doubt of the fact that the lumbo-sacral cord is not pressed upon by injury of the sacro-iliac joints. Its relations to the joint are close, but not so close as that. This very fact explains what Dr. Monger says about his own case. When the lumbo-sacral cord irritation does appear, it appears not immediately upon receipt of the injury, but two or three days later, sometimes longer. The reason for this is that the symptoms are caused by infiltration around the lumbo-sacral cord. The important thing, I think, to be found in the paper read today, is the fact that these symptoms are to be explained in very many cases by careful examination and by a better knowledge of these joints, and that, therefore, we can relieve very many cases that heretofore had to go unrelieved. Therefore, I repeat, any man who contributes to a better general knowledge of this particular question, and the symptoms which explain its meaning, confers a distinct service upon us.

Dr. Bunts: I don't know that I can say anything, but I have a personal interest in this paper. It is a subject that I have practically paid no at-

tention to heretofore. I have been one of those who have rather thought that most of these troubles were due to muscle strain or inflammatory trouble of some kind. The thing that interests me is that I have had one of these things occur to me. I have never been afflicted in any way with rheumatic trouble of any kind. I drive an electric machine, and the brake got stuck on it one day, and I got out and kicked and shoved it, and finally got back into my machine. I felt no strain or pain of any kind. Finally I arrived at the hospital, and as I stepped out of the machine, I nearly fell to the ground. I supposed from that time on I had been afflicted with lumbago. I was in bed a day or two, took the ordinary line of rheumatic treatment, but massage, hot and cold applications by a professional masseur, and finally the only thing that relieved me was an electric bulb bath, running it up to a temperature of 250, and getting a profuse perspiration, and then putting cold water from a hose upon the spine. I am still suffering with more or less pain in my back, and it alters with the weather, and that has led me to believe that it was rheumatic in character. I am simply speaking here to say that this thing has opened up a line of thought that I have not given much attention to heretofore, and I am going to have this matter investigated to see if I have any trouble with my sacro-iliac joint.

Dr. Carothers, (Closing), Cincinnati: My paper is not absolutely complete by reason of the fact that time had to be taken into consideration in writing the paper, and also because there is a little I have yet to learn about this matter. I don't think that the subject is thoroughly complete by any matter of means. I believe in five years from now we will know a great deal more than we do today. I would take issue with Dr. Monger on the lumbo-sacral cord condition, but I think Dr. Freiberg has described that. I do not believe that the inflammatory condition following slight injuries is partly responsible for this thing, but that will not explain these cases that have been existing long after the inflammation has subsided after treatment. I would not have you believe that I think there is no lumbago or no sciatica. We do have these conditions. But I believe that most of the lumbagoes and sciaticas are sacro-iliac conditions, so that it resolves itself into a differential diagnosis.

That poverty is a friend of consumption is demonstrated by some recent German statistics, which show that of 10,000 well-to-do persons, 40 annually die of consumption; of the same number only moderately well-to-do, 66; of the same number really poor, 77; and of paupers, 97. According to John Burns, the famous English labor leader, 90 per cent of the consumptives in London receive charitable relief in their homes.

National Anti-Tuberculosis Associations have recently been formed in Russia and Greece. Similar organizations are now in existence in the United States, England, Germany, Sweden, Switzerland, Hungary, Italy and France.

THE RECOGNITION AND TREATMENT OF PREECLAMPTIC TOXAEMIA.

F. S. CLARK, A. M., M. D.
Cleveland.

[Read before the Ohio State Medical Association.]

The subject chosen for this paper is one concerning which so much has been written that anything I say may seem needless repetition. Although eclampsia only occurs once in 300 or 400 pregnancies, yet in every hundred there are several cases of toxæmia any one of which may result seriously.

Excluding hospital cases, I have seen in the last 551 confinements, including private and consultation work, 49 cases of toxæmia, 21 of which resulted in eclampsia. Of the 21 eclampsia cases there were 11 which had received no special attention during pregnancy. In four others the nature and value of the treatment was very doubtful. In six, convulsions occurred in spite of vigorous treatment, but this number might have been decreased had labor been induced when the results of the treatment were found to be unsatisfactory. Judging by my own experience in the management of toxæmia of pregnancy it is not unreasonable to claim that at least one-half, if not two-thirds, of the 15 would have escaped convulsions under vigorous treatment. In other words, instead of 21 cases of eclampsia out of 49 toxæmias, there ought not to have been over eight or ten and possibly even less.

It is such facts that has led me to choose this subject and urge that closer attention be given to our cases during pregnancy and my suggestions will not be so much to the specialist as to the general practitioner to whom toxæmia cases come with sufficient infrequency to lead to a laxness in precautionary measures.

Unfortunately the recognition of preeclamptic toxæmia is not always readily made. Pathology shows certain changes due to toxæmia of pregnancy, but they are of no value during the progress of a case in helping us to decide whether toxæmia is present, and if so, whether it is of a serious nature. The exact cause of the toxæmia is not known and it will only be possible to recognize its presence in all cases when further study and investigation disclose its true nature. Until then we must depend upon clinical experience which has taught us certain signs, some of which usually occur early enough in pregnancy to give time for effective treatment. They do not, however, tell us how severe the poison-

ing is or when the eclamptic period has arrived. These signs are albumin, casts, oedema, headaches and difficult vision. Occurring less frequently, but often of great significance, is a return of nausea late in pregnancy, diarrhoea, deafness and dizziness. In addition to these, high blood pressure and very marked leucocytoses are of value with a possibility that further study will show them to be a reliable aid in determining the approach of eclampsia.

No single case has all of these symptoms, some only having one and it appearing late. The careful, observer, however, will rarely fail to find some evidence of the toxæmia and so, being put on his guard, be able to determine its true significance as an indifferent student could not. The individuality of the patient, always an unknown quantity, must play a most important part and doubtless explains why one case goes safely through pregnancy and labor even though evidences of toxæmia are very manifest and another with apparently little disturbance may succumb to one convulsion. It is these reasons that make it necessary to study each case so carefully if we would determine as early as possible the presence and severity of toxæmia, and no symptom, however insignificant it appears, should be ignored simply because trouble does not always follow when it is present. It is not possible to go into a full discussion of these symptoms but an attempt will be made to give an idea of their relative value.

1. *Urinæ Changes.* It is said, and rightly so, that few cases of pregnancy fail to show occasional traces of albumin. It is very rare that a case of toxæmia fails to show the presence of albumin. Often its first appearance is as a trace and if this is toward the end of pregnancy it should not be disregarded because there is so small an amount but examinations of the urine should be made frequently enough to settle the question as to whether the albumin is or is not of importance. There are some cases when it is only found just before or just after a convulsion but this is a rare occurrence and in spite of many opinions to the contrary albumin is still a valuable sign and in the few cases it fails there is usually some other sign to assist us in our diagnosis. If with repeated examinations the albumin is found to be increasing then we must conclude that the toxæmia is of a more serious nature though we cannot by this sign say whether we will or will not have a convulsion.

Casts are found less frequently than albumin. If the case has not been under our observation before pregnancy it naturally raises a question as to whether they are due to pregnancy or a

chronic nephritis but the general treatment of the case will be very little different in either. If, during the progress of the case, casts are increasing and especially if they are in spite of our treatment of the toxæmia termination of the pregnancy must be considered.

The tests for urea are of little value because of the many conditions influencing its increase or decrease. The restricted diet of the patient causes a marked decrease in the amount excreted as does also the fact that she is less active.

If, however, when there has been a large amount of urea excreted we find that it is, under the same conditions, rapidly decreasing, it is a sign of danger, especially if the kidney lesion is of a chronic nature.

Normally there is an increase of urine during pregnancy. If albumin, casts or decrease of urea occur when the amount of urine is markedly decreased they are of greater significance, though convulsions have occurred, when a large amount of urine was being passed.

2. *Headaches.* These should always be looked upon with suspicion and the more persistent and severe they are the graver is the prognosis. Headaches occur rather frequently in pregnancy and often have no significance, but unless some other positive cause can be found they should be considered and treated as toxic. It is astonishing how many times this symptom is ignored and instead of being vigorously treated is looked upon with apparent indifference. Several cases of eclampsia have come under my observation in which for days and weeks the headaches have been ignored, no efforts being made to find the cause.

3. *Eye Symptoms.* The occurrence during pregnancy, of difficulties in seeing of varying degrees should immediately suggest a serious complication. It may be due to uræmic poisoning accompanying a chronic nephritis or albuminuric retinitis due to the so-called kidney of pregnancy. In any case there is probably an advanced stage of the disease threatening both the vision and life of the patient. Some cases of toxæmia have no eye symptoms and some have the symptom when there are no other noticeable signs of toxæmia. The ophthalmoscope would disclose such conditions and the question naturally arises as to how valuable such examinations would be if made regularly.

The importance of this symptom is such that whenever it occurs I have been largely influenced by it, especially when taken with other symptoms, in making a decision regarding the induction of premature labor. If the symptom occurs early in pregnancy and the ophthalmoscope shows

changes then abortion should be induced to save vision if not life.

4. *Oedema*. This symptom if only slight is not of much value when taken alone. If it involves the face and hands it is of more importance than if only the feet are affected. When rapidly increasing it must not be ignored.

5. *Gastro-intestinal disturbances*. A return of nausea late in pregnancy and the occurrence of diarrhoea are usually due to toxæmia and should be so considered. Epigastric pains frequently precede eclampsia.

6. *Deafness*, occurring suddenly is important, it being the only premonitory symptom in one of my cases of eclampsia.

7. *Dizziness* and neuralgic pains, especially the former, are very suggestive of impending trouble.

8. *Leucocytosis*. This is normally higher in pregnancy and labor than otherwise and unless very marked is not of value except in conjunction with other signs in determining an impending eclampsia.

9. *Blood Pressure*. Any marked increase of blood pressure must be looked upon with suspicion. This is much more accurately judged by the sphygmomanometer than by the touch, the pulse at times showing weakness to the touch when in reality the blood pressure is high. One hundred to one hundred and fifty MM is considered normal and the higher the pressure above this the nearer is danger. Though it may go to 250 MM and no convulsion occur, yet when 180 MM is passed the case must be looked upon with increasing anxiety as the high rate becomes higher. At the present time and till further investigation shall show better, the studying of the blood pressure cannot be looked upon as a sure index of impending trouble to be followed indiscriminately. While it may give more reliable information than some of the other symptoms its value is in being taken in conjunction with others.

As said earlier in the paper, the careful observer will very rarely fail to diagnose a pre-eclamptic toxæmia if he watches for all the symptoms given and studies his case with their true significance in mind, but there is today no recognized way of determining by those symptoms when one of these cases may become eclamptic.

The treatment of preeclamptic toxæmia is difficult and at times unsatisfactory because we do not have this information. To be most successful it should begin early, and by this I mean before any symptoms are evident. It should also be very vigorous when symptoms are present.

The early treatment consists in so instructing our patients as soon as we are engaged to attend them that the conditions tending to make possible the accumulation of toxins may be avoided. There are probably few cases in which toxins are not present, but many do not show them because of the proper action in the excretory organs. The patient should be told regarding her eating, dressing, bathing, exercising in the open air and especially the importance of thorough action each day of the bowels and kidneys. The only elimination of toxins are through the bowels, kidneys, skin and lungs. If, early in pregnancy, she is careful to keep these organs active there will be less danger of an accumulation of toxins which may, though fortunately rarely, first show their presence by a convulsion. We, as the physician, must see that she knows how to do these things, but sometimes our efforts to prevent toxæmia will fail. We must also instruct her to notify us at once of the occurrence of any of those symptoms which indicate such a condition. My patients are told to immediately send a specimen of urine when such symptoms occur and an especially close watch of her is kept while they last. Ignoring these symptoms, as is sometimes done, or classifying them among the conditions which must be endured till the baby is born I fear is either due to ignorance of their significance or a blind trust to luck that nothing will happen because so often it does not.

Up to this point we are dependent on our patients to notify us of symptoms and furnish us specimens of urine for examination. But there is one condition when we have the matter entirely in our own hands and that is when labor has begun. During all cases of labor we should examine the urine at least once and as many more times as the earlier examinations indicate. In this way we will occasionally obtain evidence of the presence of one of those cases in which symptoms are late in showing and be able to start such treatment as will very effectually modify the effects of the toxæmia.

Again many cases of toxæmia result in premature labor. Therefore, whenever such labor begins, examination of the urine and careful inquiry into the previous general condition of the patient will not infrequently show symptoms of eclampsia that even at that late date can be materially modified and such treatment started as will perhaps save the patient's life.

As soon as any of the symptoms enumerated appear the diet should be restricted and a cathartic given. The extent to which it is necessary to restrict the diet depends on the severity of the

symptoms. If they are very slight merely forbidding meat and eggs is usually sufficient. If they are more pronounced milk diet should be ordered and continued until the symptoms clear up. It is best not to allow meat and eggs during the balance of the pregnancy, but if the symptoms disappear vegetables and cereals may be added, the quantities depending on the further developments in the case. As a laxative small doses of phosphate of soda each day generally gives the best results. The kidneys must be kept active for which water is the best remedy, or if the urine is scanty, cream of tartar water. Warm baths, or hot packs and moderate quiet or rest in bed according to the case, is also necessary.

Most of the cases seen will respond to this treatment and require but little more, at least, till labor begins. If, however, they do not respond, or the symptoms become worse in spite of the continuance of the treatment then must be considered the advisability of inducing labor. At such times we will be at a loss to know when to interfere, for the case that seems the least promising will often go through the pregnancy and labor, while the apparently light case may die in her first convulsion. Further study of blood pressure and ophthalmoscopic examinations may help us to decide when it is safe to wait or time to interfere, but until some positive method of determining this most important matter is known the only safe plan is the induction of labor whenever we find we are losing ground, or, I might almost say, just holding our own in spite of treatment. This will rarely need to be considered at a time when the risk to the child is materially increased because of prematurity, while as a matter of fact the danger in many cases will be less than if it goes to full term. The danger to the mother from the induction of labor is practically nothing when done as such operations should be, and it will be far better to occasionally induce labor unnecessarily than to let the case go on and be required to do a more serious operation under less favorable conditions of the mother or possibly lose the mother and child before anything can be done.

With the uncertainty of the actual severity of each case of toxæmia in spite of the character of the symptoms, we are justified in adopting a slow method of induction of labor, thus materially decreasing the danger to the patient from that source. If, however, we find our patient is becoming rapidly worse and no progress is being made in the dilatation of the os from the slow method, as in a case reported a year ago, where the patient became unconscious and the

pulse very rapid and weak, then we can and must use a more radical operation.

If we permit the case to go to normal labor when the toxæmia is so profound we must not forget that unfavorable conditions often increase rapidly during the labor and keep a very close watch of the patient. If the symptoms are very marked it is wise at the onset of labor to give 20 grains of chloral for an initial dose and then 10 or 20 grains every three hours during labor according to the effects obtained. Frequently catheterized specimens of urine should be examined and we will find in many cases that it will be wise to terminate the labor at the end of the first stage. In spite of the objections to cathartics at the onset of labor it is wiser that one should be given, for the patient will be in far better condition for treatment after labor, especially if convulsions occur. After the completion of the third stage many cases will be benefited by a hot pack. Ergot should not be given, for a copious bleeding will be beneficial. Following this, if there is no evidence of pulmonary oedema, salines subcutaneously can be given with benefit, and especially so if the urine is scanty. Pilocarpine is a dangerous drug and should be given, if at all, very guardedly. I never use it. In general then, after labor, severe cases of toxæmia should be treated much as a case of eclampsia.

In conclusion let me repeat a few of the points I have attempted to emphasize.

1. As soon as engaged for a case of confinement definite directions should be given the patient as to the care of herself, and for what symptoms she should be watchful. She should be urged to report at once the occurrence of such symptoms.

2. On receiving such reports the case should receive vigorous treatment as to diet and elimination of toxins.

3. If this treatment fails labor should be induced rather than take a chance on having the case end in convulsions.

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DISCUSSION.

J. M. Moore, Cleveland: The paper covers the subject very well. I have had some experience with a few cases, and will only refer to them in a general way. One lady had engaged a widwife. At six months patient became swollen very considerably. I was engaged to take care of the case. Oedema from the feet to the body was very great. I got a specimen of the urine and it was almost solid with albumin and hyaline casts. I put the patient to bed on a milk diet and kept her that way. She went along very nicely, but never got rid of the oedema. I failed to make a diagnosis of multiple pregnancy. When labor

came patient was delivered of twins. Following labor the oedema left and she had no trouble whatever. It was only a case of pressure; nothing else. I believed it to be an impending case of toxæmia with eclampsia pending, for the amount of albumin and casts indicated a case of that kind. She has been confined since with single pregnancy and had no trouble whatever.

I have another case in mind which the chairman saw with me. Her physician at the time of labor was on another case. Her folks ran for me as I was the nearest physician. The woman was in a spasm and when she came out of the spasm she could not see or hear. I used hypodermic of morphine. Nitric acid test showed the urine to be almost perfectly solid with albumin. In the meantime the chairman, Dr. Thomas, and the other doctor appeared on the scene. We immediately sent the woman to the hospital.

Dr. Thomas and the other physician went to my office with me and made another test of the urine and found it almost solid with albumin. Dr. Thomas will bear me out in this statement. The regular man on the case does good work and is a reliable man. He told us that when he had examined the urine before there was positively no albumin—not a trace. This is a case that had absolutely gone through the nine months in perfect health; had never been sick until labor came on; then eclampsia; fearful state. Dr. Thomas delivered the woman and took care of the after-treatment. It was a dead-born baby, but the woman made a good recovery.

I saw another case in consultation. There were two doctors already in this family; one for obstetrical work and one for general practice. The general practitioner had a typhoid case in the house, a child about six years old. He knew the mother was pregnant and about to be confined soon, but he said nothing to her because he felt it was none of his business. The night of confinement the man taking care of the typhoid case was called. When he came she was in eclampsia. She had passed very little urine in the last two weeks, had had almost constant headache, oedema of the whole body, face and hands. She had not told her physician anything about it. An anæsthetic was administered and the doctor quickly delivered a dead baby. He catheterized patient and obtained only a few drops of urine. This was 1 o'clock a. m. He tried to save her with careful medication, but she died at 4 a. m. This was clearly a case of neglect.

She could have been saved if she had reported her condition to the physician.

There is one other case. A physician was engaged and I was called in consultation in second stage of labor. Her physician gave the anæsthetic and I made a rapid delivery. It was a live baby. He did everything to save the woman; she had spasms that day and night and died the next morning.

What I have said is in contrast with the paper and a few things we see on the other side of it.

Dr. Clark says he thinks the delivery of child with a good hemorrhage is a good thing for the mother. I would like to ask Dr. Clark if he has had any experience in these cases with venesection. Also if he knows if transfusion has been tried?

Richard A. Bolt, Cleveland: I have very much enjoyed hearing Dr. Clark's admirable paper. It brings to mind several points which need special emphasis. The complex symptomatology of the toxæmias of pregnancy and eclampsia shows us that we cannot predict from any one symptom, or series of symptoms, how soon convulsions will supervene, or how severe the attack may be. It is therefore important that we should pay attention to the earliest signs of toxæmia, so that prompt and efficient treatment may be begun early. We should study every case in its individual aspects. No untoward symptoms should be lightly passed over. While such men as Dr. Williams of Johns Hopkins, and Dr. Welch of the New York Lying In Hospital, interpret the lesions of eclampsia so differently, it is difficult to come to any exact conclusions regarding the pathology. The case referred to by Dr. Moore recalls a similar one brought to my attention while a student at the New York Lying In Hospital. The urine of this woman had been practically free from albumin. One evening a slight trace appeared in the specimen. The next morning there was a heavy precipitate of albumin, and this increased in the following specimens until the urine on boiling was almost solid when the attack of eclampsia came on. It simply shows we cannot depend upon individual specimens of urine for examination.

The specimen should be taken from the 24 hours amount, and systematically examined. The cases of toxæmia vary greatly in the amounts of albumin in the urine. In many extremely small amounts of albumin appear, and in some cases no albumin can be demonstrated. In any case, not too much stress should be put upon the urinary findings. We should rather pay more attention to the clinical signs and symptoms as a whole, and institute radical treatment, as Dr. Clark recommends, before convulsions are imminent.

Wm. D. Porter, Cincinnati: This is a very valuable paper and the points are well taken. The careful, systematic study of symptoms, as advised by the essayist would, if followed in all cases, greatly diminish the cases of eclampsia.

The advice to induce labor in some cases is very valuable. In my practice I have never had a case of eclampsia. This is partly due to my good fortune in escaping the cases that come on without warning. In seven cases I have induced labor. The women all did well, but most of the children were lost. The child should have but slight consideration in the face of grave danger to both mother and child.

I agree with the essayist as to the slight importance attaching to estimations of urea. For a long time I made careful estimates of urea, but soon found that it varies almost exactly with the specific gravity.

Headache is significant. The pregnant woman should always be instructed to consult physicians if a headache should become persistent.

In case of threatened eclampsia, I believe veratrum viride to be of great value. All observers agree that eclampsia is accompanied by high blood pressure. Blood pressure may always be lowered by veratrum, if given in sufficient amount.

Wm. Gillespie, Cincinnati: I am sorry that I did not hear the whole of Dr. Clark's paper, for

I was very much impressed by the latter part of it. The man who gets a paper so properly balanced and so clearly put is rare. Dr. Porter mentioned the fact that he had had no case of eclampsia in his own practice, but was too modest in claiming credit for this record. One of the greatest pleasures connected with my residence in this city has been the privilege of intimate association with him, and from our habit of talking over our cases I am able to say that this record means careful supervision on his part, and the successful carrying out of preventive measures. I have been less successful than he, for I have had one case of eclampsia in a patient of my own. All other cases have been seen in consultation, or have been referred after the development of the toxæmia.

Mention has been made of the sudden onset of albuminuria. I have frequently seen it in consultation with competent, careful men, and have no doubt of the acute character of many of our toxæmias. Veratrum viride is not only our most valuable remedy for eclampsia, but a most valuable prophylactic in cases of toxæmia. I am in the habit of continuing its use for a number of weeks. In the acute condition it must be pushed to its full action, slow, soft pulse, moist skin, sighing respiration, and vomiting, the patient pumping up bile every few minutes until pints and quarts are brought up. When this condition is produced you will have no convulsions, and by maintaining a less marked effect you are frequently able to carry a patient to term or, at least, to the time when a viable child may be delivered. Eight, ten or twelve drops are required every four hours to maintain a safe condition, and may be continued for weeks. Dr. Reamy always maintained that morphia would immediately neutralize the effects of veratrum, and before I had attained the courage, which comes with experience with the drug, I several times called upon it for its antidotal effect, but now I never care how profound the effect, for with him and Dr. Isham I have no fear of it.

Many of the sudden toxæmias which come on during pregnancy, like those of acute Bright's in the non-pregnant, begin to subside in a few days, and if they can have the toxæmias pumped out by the excessive action of the drug upon the liver, may be carried on to term or at least got into safer condition before more active measures are called for. I want to again express my high appreciation of the paper.

Magnus Tate, Cincinnati: I congratulate Dr. Clark on his paper, first because he has chosen an excellent topic for presentation, and second, he has grouped together the treatment of many important conditions in a very concise manner, which makes it naturally of much interest for those of us who do obstetrical work. Further, it is also an excellent topic to consider because pre-eclamptic toxæmia occurs so frequently in our work. We are unfortunate in not knowing more of the pathology of the toxæmias, but conscientious work is being done by pathologists such as Williams, Ewing and Welsh, and while they are often working along diverging lines, ultimately we are living in hope that they will come to some definite conclusion. I was very glad to note in one part of the paper that the essayist

advocates the bringing on of labor in severe toxic states after conscientiously trying various remedies. This brings me to a discussion of veratrum viride, a drug much used in Cincinnati. I have used it honestly and conscientiously, have at times overwhelmed the patient with it and much against my will I have come to this conclusion: that while it is of some value, other means gives us better results. Modern text-books tell us that in the treatment of eclampsia, when veratrum viride is used, that the mortality ranges from 20 to 25 per cent, and Williams tells us that this drug was extensively used by an obstetrician in India who reported a mortality of 40 per cent. If we are looking for a lower death rate it behooves us to cast aside a remedy which does not give a better mortality than the above records and resort to more modern means and methods.

Dr. Clark (closing discussion): Mr. Chairman, I appreciate very much the discussion of my paper. I have not tried to make a clinical paper and have only referred to cases I have seen to emphasize points suggested. Dr. Moore speaks of the cases he reports as illustrating the other side of the subject. It would be interesting to know whether there were other symptoms in addition to the albumin in the case where albumin appeared so abruptly and increased very rapidly. Dr. Moore says the history was satisfactory. I do not think his cases show so much another side as they illustrate the points I have given, namely, that in spite of precautions we will have, but rarely so, cases with few symptoms beforehand. I can report such cases. One patient on waking found she could not hear and in one hour had a convulsion. For only one day was there albumin, and then only a trace; there were no casts. Labor was induced and she recovered without further difficulty. Dr. Moore asks why not bleed. I have considered it though I have not bled in a single case in the pre-eclamptic stage. It might be a good policy.

I am glad to have the testimony of those who are in favor of the induction of labor. I can now see cases where I may have made a mistake in my early practice in not inducing labor. I might have escaped serious difficulty. Labor should be induced when, in spite of treatment, symptoms are continued and are not improving. Tests for urea are of no value. In many cases there is only a small amount of urea excreted and the cases go through labor without any suggestion of toxæmia or convulsions.

As to the headaches referred to by Dr. Porter. General practitioners disregard this point very frequently and many of the cases of convulsions occur where there has been such neglect. Who can say that these cases might not be alive today with earlier treatment?

Now as to veratrum viride. I have not used it before but have occasionally after convulsions and had very good results. It might be valuable before and should be tried in suitable cases.

I can speak from experience in regard to the negative value of urine examinations in some cases. They may have convulsions or not. There is no way to tell beforehand whether there will be. I would sum up the substance of this paper in a few words. The tests for albumin and casts must

be made in every case and other symptoms watched for. The general practitioner sees these cases of eclampsia only occasionally, and seeing them only occasionally comes to look upon the dangers of a case occurring as so remote that there is no need of such watchfulness as I suggest. This leads to an unintentional disregard of symptoms and later convulsions. Every one who does obstetrical work should watch each case carefully as it comes even though the symptoms are very slight and treat them as indicating existing toxæmia, even though nothing else follows. In addition examination of the urine at the onset and during labor and keeping a careful watch of patient after labor will keep the number of cases of eclampsia reduced to a comparatively small number.

"URETERAL CALCULI."*

CHARLES M. HARPSTER, M. D.,
Toledo.

ANALYSIS OF THE SUBJECT WITH THE REPORT OF TWO CASES.

[Read before the Ohio State Medical Association.]

PREFACE.

As Guiteras said:

"Diseases of the urinary tract in women should be considered as equally important as those of men, and many of the leading gynecologists of the world are interested.

"A number of pathologists working in urology, in the pathology of the urinary organs, and the bacteriology of the urinary infections are members of the American Urological Association.

"General surgeons interested in kidney and bladder surgery as well as internists engaged in the study of nephritis, and in the urinary diseases dependent upon changes in the urine, are of necessity vitally interested.

"This broad view gives a wide scope to the work, and intensifies the interest, and stimulates the investigations."

The occurrence of stone in the ureter is a much more common condition than was ever thought until the X-ray revealed its frequency. Leonard and other radiologists find that ureteral stones are probably more frequent than renal stones. This has, however, I think, not been absolutely proven. Ureteral stones may be primary or secondary. Primary stones are, however, very rare, and can only occur where there is localized ulceration or irritation of the ureter, or where a foreign body is present. This occurred in a case operated upon by Howard Kelly at the Johns Hopkins Hospital. The secondary stones are common, and make their way

from the kidney. These stones become enlarged by collecting sediments after they are lodged in the ureter.

There are three locations in the ureter where stones are apt to lodge.

The first at a point about an inch and a half below the pelvis of the kidney; the second is in the bend of the ureter about an inch below the pelvic brim; the third is the vesical portion.

My second case† was a girl about 15 years of age. The stone was lodged only a short distance from the vesical end of the ureter and was on the right side. The anuria was of short duration. The stone was located with the ureteral catheter and removed by a median incision. The ureter was opened and after the stone was removed was immediately closed, with fine silk. Recovery was rapid and complete.

My own experience has been limited, but a careful examination shows that most of the calculi are lodged below the iliac vessels, and I wish to especially call your attention to the fact that where the ureter crosses these vessels is a valuable way to locate the same in difficult cases.

Scheny says in twenty cases the stone was within 6 c. m. of the kidney; in fourteen at or near the pelvic brim; in fifty-five with 6 c. m. of the vesical orifice. In six cases, the remainder of a series of 101 collected cases, it was situated at various points.

Morris reports forty-four cases in which location was stated. In nineteen, the stone was lodged within two inches of the kidney; in thirteen, just before or where the ureter passes through the vesical wall; and in eleven, somewhere about the line of the brim of the true pelvis. In three of these the stone was below the brim; in two, on the brim; and in five, just above the brim.

Morris says impaction at the vesical orifice is more common in males than in females. The earlier operations were done for stones at the vesical orifice and near the kidney pelvis, so that the impression arose that these were the most frequent sites of lodgment.

Recent X-ray reports tend to show that the portion of the ureter between the pelvic brim and the vesical orifice is a very common site for ureteral calculi. Morris attributes lodgment at this point due to the curve made by the ureter. The lodgment is due to the narrowing or constriction of the ureter, or to the size, shape and degree of roughness of the stone. Of course, an ulcer or foreign body may determine the

*Address of the Section Secretary on Dermatology, Proctology, and Genito-Urinary Diseases, Ohio State Medical Society.

†Reported in "The Medical Council," Jan., '09.

site of development of a primary stone. Calculi may be of almost any size and shape.

Bovee reports a case in which he removed by the transperitoneal route a stone weighing 1310 grains and measuring $2\frac{3}{4} \times 1\frac{1}{2} \times 1\frac{1}{4}$ inches. The ureter was sutured and vaginal drainage established. There was no leakage. The majority of stones are of an oblong shape, especially those which are primary, or which remain and increase in size after lodgment in the ureter. Israel and Morris each report cases of stones measuring five or six inches in length. A calcareous mesenteric gland has produced symptoms strongly suggestive of a stone in the right ureter. The presence of the stone was confirmed by the X-ray, but owing to its large size, the ureter was catheterized with a leaded catheter, showing the supposed line of the ureter was three-fifths of an inch from the ureter. Differential diagnosis between a concretion of the appendix, a calcareous gland, a phlebolith or some similar condition can sometimes not be made before operation, although the leaded ureteral catheter is certainly a great aid.

In a majority of cases reported upon but one stone has been found. However, the ureter has been found packed with stones for nearly its entire length, and the term "chain-stones" used. Doyen removed twenty-four stones from the ureter. Morris has removed nine stones from the ureter. Young has removed three large calculi from the lower end of the ureter by the extra-peritoneal iliac route.

Fiori removed twelve stones, making an incision in the ureter 16 c. m. long. The incision was closed and the urinary leak which followed ceased in a few days and the patient recovered. Larger stones often pass through the ureter than one would suppose. Many reported cases go to show that a stone may remain impacted for years and apparently create but a small amount of discomfort. As a result of impaction the ureter may become thickened and ulcerated.

It may be perforated by a stone, as in Keen's case, and cause an abscess around the ureter, or it may perforate into the rectum or bladder. In Keen's case the stone was lodged just below the pelvic brim and was definitely located by the X-ray. It was removed by the extra-peritoneal iliac route. The ureter above the stone in most instances is dilated, the degree depending upon the degree of obstruction. Even if a stone should pass into the bladder, it may produce sufficient ulceration to cause a stricture of the ureter.

A stone lodged in the ureter tends to increase in size, and its rapidity of growth will depend upon the degree it interferes with the passage

of urine. It is quite probable that the lodgment of a stone in the ureter tends toward the production of other stones behind it in the ureter or kidney. A rough stone, if unattached, will interfere less with the passage of urine than a smooth one, but many of these rough stones become embedded in the mucous membrane and completely obstruct the ureter. Probably the most serious changes resulting from the impaction of ureteral calculi occur in the kidney. A complete obstruction of the ureter by a stone causes an atrophy of the kidney with complete loss of function. An incomplete obstruction of the ureter produces a hydronephrosis. Although a hydronephrosis is the first result of an incom-



Case I—Ureteral Calculus.

plete obstruction of the ureter, it is very apt to be converted into a pyonephrosis, especially if there are a number of stones present. A complete anuria, as in one of my cases, calls for the promptest treatment.

Deaver reports a case in which a carcinomatous change had taken place in the ureter at the point of lodgement of the calculi. This shows what might result from letting an impacted calculus go on.

The symptoms may be quite sufficient for diagnostic purposes, but they are often confusing, and although indicating stone somewhere in the urinary tract, do not indicate even approximately its location. It may be said that aside from the use of the X-ray and possibly the ureteral catheter, it is impossible to differentiate between stone in the ureter and in the kidney.

Stone in the lower portion of the ureter and specially in the vesical portion, may be so confused with stone in the bladder that a diagnosis can be arrived at only by the use of the sound, the X-ray and the cystoscope. Unless a stone can be palpated, detected with a ureteral catheter, seen with the cystoscope, or definitely shown in an X-ray plate, operation is hardly warranted unless clinical signs are persistent. It is certainly not warranted until all the means mentioned, and especially the X-ray, have been employed.

Pain, the result of ureteral calculus, is nearly always of a paroxysmal character.

A history of repeated attacks of colic. The pain so closely resembles that of renal colic when the stone is in the upper portion of the ureter that it is nearly impossible to differentiate between the two. It is probably true that in nearly every case of renal colic there is a partial or complete passage of a stone into the ureter. Parker has reported a case of a large calculus, in which all the pain was referred to the rectum. Localized tenderness is much more indicative when found after the subsidence of the colic. We are all familiar with the urinary symptoms that accompany many cases of appendicitis where the appendix lies against the ureter or where there is an inflammatory effusion into the pelvis. The size does not influence the pain so much as the shape and degree of roughness of the stone. A vaginal and rectal examination should be made in every case, and where the stone is within two inches of the bladder it can, as a rule, be felt. Haematuria, when accompanied by other symptoms, and especially when persistent even to a slight degree after the subsidence of attacks of pain, is of great clinical significance. I think that the persistent microscopic blood in the urine for several days after an attack of colic is of more value than marked bleeding during an attack. Polyuria coming on with the subsidence of an attack of pain is of great significance, especially if it has been preceded by oliguria during the pain. Fever and chills are usually present.

Numerous cases are on record where a stone projecting from the ureteral meatus and where its removal has been easily accomplished through cystoscope. Young reports several such cases. Much can be learned by a comparison of the ureteral orifices and the character of the urine passing from them. A wax tipped ureteral catheter has been used by Kelly and others. A stone can be displaced by the catheter when the ureter is dilated behind the stone. In Noble's case he pushed a wire stilette in a ureter catheter through the ureter, which should be a warning.

Pure uric acid or phosphatic stones do not show readily on an X-ray plate. They are very rare. In nearly every case oxalate crystals are also present in sufficient degree to cast a shadow. The interpretation of the X-ray must, however, be in the hands of an expert, and it is important to have a plate made at least twenty-four hours before an operation. If this is not done, a fruitless and unnecessary search of the ureter may be made for a stone which has passed into the bladder.

Every case of ureteral calculus does not require operation, but every stone that is too large to pass or that remains stationary for any length of time should be removed. I suggested a number of years ago the use of sterile oil injected into the ureter to aid the passage of a stone. The different operations suggested are applicable to stones situation in the upper third, in the lower two-thirds and in the vesical portion of the ureter.

Stones in the upper third may be removed through the lumbar incision, such as is usually employed for the exposure of the kidney. The operation should be retro-peritoneal. When the stone is located, the question will arise as to whether it shall be pushed up into the kidney and removed here, or through the kidney substance.

Deaver has advised pushing the stone into the pelvis and removing it through the kidney cortex, and this was the advice of Israel, Tuffier, Newman and others. More recent work, however, has shown that it is more feasible to remove the stone through a longitudinal incision in the ureter. Clean wounds of the pelvis, however, heal readily. It is believed, however, that a wound in the ureter, whether sutured or not, will heal more quickly and with less likelihood of a urinary leak than one in the pelvis, and experience and recorded cases bear out this view. The pelvic portion of the ureter has but recently come into the field of surgery.

Young states that as late as 1898 Fenger stated that the lower ureter was beyond the reach of the surgeon. A short time later, however, as was shown by numerous case reports, this to be a field where most successful surgery could be done. Although there are several methods of approach to this portion of the ureter, there is no question in my mind that the iliac extra-peritoneal route is far the best.

The transperitoneal exploration is in certain doubtful cases valuable. The removal of ureteral stones through the peritoneum is not to be compared in safety to extra-peritoneal ureterolithotomy. The vaginal route may be justifiable

where the stone is low down and easily felt. Fistula is prone to occur by this route, however. Rectal, perineal or pre-rectal and the posterior operations of Kraske, Cabot, Morris, etc., have serious objections.

The wound is a painful one, is apt to become infected through the rectum. Examination of the ureter is limited. The opening in the ureter must be made in its floor instead of in its roof. Fistulae are more apt to occur.

Extra-peritoneal iliac route was first used by Bardenhauser, then Israel, Twyham, Tuffier, Morris, Finney, Young and Keen.

Young states that up to May, 1903, that there had been done but nine extra-peritoneal iliac operations for stone in the male by five operators.

The incision is parallel with Poupart's ligament and extended downward for three or four inches from the anterior superior spine. With ordinary care the peritoneum will not be injured. The ureter always adheres to the peritoneum. The exposure of the ureter is most satisfactory. The incision can be easily carried up higher, to expose the ureter or kidney if desired. A small opening can be made in the peritoneum and valuable information and assistance obtained in doubtful or difficult cases if desired. Its greatest field lies in those cases where the abdomen is opened for some condition for exploratory purposes, and a stone if found in the ureter. The peritoneum should, however, be closed before the ureter has been opened. I would recommend the careful exploration of the ureters in operations for chronic appendicitis, when on opening the abdomen no lesion is found sufficient to account for the symptoms.

I only call to your attention the intravesical removal of calculi in selected cases.

The case of a male*, aged 39 years, will now be presented. About three years ago this patient had an attack of complete anuria lasting about five days. At this time no urine entered the bladder, and the anuria was without doubt complete. I think, by the stone falling back into the dilated portion of the ureter, or the pelvis of the kidney, or perhaps by the urine channeling around the stone, the urine spontaneously started to flow, and a very large amount was passed in the next twenty-four hours. The patient remained in apparently good health until June 22, 1908, when complete anuria again ensued, at his place of business. I saw the patient in consultation. After about seventy-two hours of anuria the attending physician was of the opinion that

calculi were present. A catheter introduced into the bladder failed to bring any urine.

The right ureter was catheterized and the flow of urine was started. A catheter passed into the left ureter met an obstruction. In about two hours one and one-half pints of urine was passed from the right kidney through the catheter and the catheter was removed. The anuria was again absolute. The patient was removed to the Toledo Hospital and the ureters were again catheterized. A very small catheter could be passed into the left kidney, but the function of this organ was entirely suspended. A smaller catheter was passed into the right kidney than the one passed before, and the kidney began to secrete urine freely. This urine was normal except for blood cells, which no doubt came from the trauma of catheterizing.

Radiographs of each kidney and ureter were made and a calculus found in the right ureter near the brim of the true pelvis and a large



Case II—Ureteral Calculus.

calculus in the left ureter near the pelvis of this kidney. We assumed, rightly I think, that the left kidney had probably not functioned for years, and as a life-saving measure the function of the right kidney must if possible be restored.

On June 30, '08, by the extra-peritoneal iliac route, the right ureter was exposed. The catheter in place made it more easily located, although this had softened considerably. The patient was quite a heavy man, but the ureter was readily located where it crossed the iliac vessels and followed downward. The stone was located deep in the true pelvis with a constriction of the ureter immediately below the stone. The calculus was

*Reported in "The Medical Council," Jan., '09.

worked carefully upward between my thumb and index finger. At this point the ureter catheter was withdrawn to facilitate the bringing up of the stone. At a favorable point the roof of the ureter was longitudinally incised and the stone removed. It only weighed three and one-half grains and was quite small. The ureter was sounded for other calculi, and a drain was then carried down to the ureter and the wound partially closed. On account of the contracted and small ureter, below the point of lodgment of the stone and the abnormally small ureter throughout its entire course, which I was able to examine, it was deemed best to leave the ureter open.

The preliminary drainage of the hydro-nephrotic kidney with the ureter catheter was very essential, and no record of this procedure having been in this way employed, have we been able to find with the exception of Bremerman. Free drainage is the great surgical principle in the relief of all infections and no ureter or kidney already infected can be rid of this condition while stenosis or contraction of a major degree exists in the ureter.

Nitrous oxide and oxygen was the anesthetic given. After a stormy convalescence from the development of pyelitis, on August 15, 1908, during my vacation, an incision for better drainage was made in the side and a large tube inserted, and September 9, 1908, the ureter closed, but after a few days leaked again for a short time. On September 25, '08, the ureter was permanently closed, and on October 11, 1908, the patient was discharged.

Bevan, from his vast experience, in a paper read at the last meeting of the Mississippi Valley Medical Society, cited only two cases of complete anuria. He says: "I have been able to save two lives, one a young man with obstruction of the ureter of a single functioning kidney, the other kidney being changed into a hydro-nephrotic sac without any kidney tissue, by nephrotomy with drainage; the other a young woman with obstruction of the ureter by stone of her single kidney, the other kidney having been removed years before on account of tuberculosis, by the same procedure as above."

REFERENCES.

Morris, Tenney, Young, Kelly, Deaver, Keen, Parker, Fowler, Noble, Kolister and Schmidt, Brewer, Cabot, Garceau, Webster, Gibbon, Bevan, Leonard, Schenck, Bovee, Israel, Doyen, Fiori, Tuffier, Newman, Fenger, Kraske, Bardenhauser, Twynam, Finney, Rees, Traube, Wilson, Bouchard, Frerichs, Demjamkow, Treitz, Strauss, Gumlich, Richter, Von Noorden.

Quoted extensively from the articles of Gibbon and Bevan in The Journal of S. O. and G.

CONCERNING THE ETIOLOGY OF SENILE CATARACT.

CHARLES LUKENS, M. D.,
Toledo.

[Read before the Ohio State Medical Association.]

The etiology of cataract may be summed up in a few words—disturbed nutrition of the lens. The crystalline lens and its capsule in a normal state are perfectly transparent. The component lens cells and fibres show opacity when they become swollen, irregularly shrunken, or their normal arrangement has been interfered with.

The crystalline lens is epiblastic and its growth continues throughout the life of the lens by the growth of layers of epithelial cells applied to its surface (beneath the capsule). These cells become transformed into lens fibres and lose their nuclei, somewhat analogous to the growth of a tree. Hence the older the individual the larger his crystalline lens, unless he get cataract. The lens capsule was formerly considered mesoblastic, but the latest observations, in the opinion of Treacher Collins point to its being epiblastic, and a secretion of the epithelial cells lining it. The epithelial cells lining the posterior capsule are used up in the formation of lens fibres early in life and are not replaced, the capsule only remaining.

This so-called hyaline membrane is structureless, and is practically impervious, in the living healthy state, to crystalloid osmosis, but allows osmosis of certain colloids. In fact, it is by osmosis through this membrane that the lens gets its nutrition, and any damage to the capsule will interfere with osmosis and nutrition, resulting in either a shrinking or a swelling of the lens cells within. The protecting and regulating influence of the lens capsule and its lining epithelium was first shown by Leber. This is soon lost after death, when the lens absorbs water and swells. These changes are seen in a dying lens in the living eye—the cataract phenomena. Here the lens usually absorbs water, and the increased tension of the lens causes it to filter out an albuminous fluid, which later causes the lens to shrink. Deutschmann performed some experiments in which he attempted to prove that the lining epithelium has no protecting influence against osmosis, but his conclusions are discredited by Parsons² and others.

¹Developmental Deformities of the Crystalline Lens, E. Treacher Collins, Jour. A. M. A., Vol. 51, No. 13, p. 1051.

²The Pathology of the Eye, Vol. III, p. 1017.

Furthermore, if the media surrounding the lens become so modified by certain toxins, exudates or altered composition that the lens is no longer able to get proper nutrition, or become poisoned, this altered nutrition may be manifested by opacity. So-called capsular cataract is a misnomer for the capsule never becomes opaque, but the opacities are deposited exudates on the capsule, or abnormal proliferation of lens epithelium beneath it.

Keeping these principles in mind, it is easy to account for disturbed lens nutrition in extensive uveitis, particularly when plastic exudates are deposited on the lens capsule, or when the vitreous has become disorganized, the retina detached, or the circulation of the lymph has been blocked by glaucoma. But the etiology of so-called uncomplicated senile cataract has been the subject of many investigations and ingenious hypotheses, and much yet remains to be found out.

Age: The epigram that "every one will have cataract if he live long enough" is certainly devoid of much wisdom. While senile cataract usually does not appear before the age of fifty, it is no more a part of old age than alopecia or cerebral softening are a part of old age. All three phenomena indicate certain local denutritive metamorphoses before the cessation of essential vital functions of the body.

Heredity plays an important role in juvenile cataract, but is much less a factor in senile cataract, although several families do possess cataract histories, running through several generations.

Becker and Deutschmann consider the cause of senile cataract to be an unequal sclerosis of the older lens fibres, while Schön attributes it to excessive accommodative effort, which throws the capsule into small wrinkles near the equator of the lens, leading to a proliferation of epithelium in this region. Peters considers a cramp of the ciliary muscle responsible for an irregular supply of nutrient lymph, to be followed by a shrinking of the nucleus. Juvenile cataract, as a sequel of convulsions, is offered as contributory evidence to this hypothesis. Leber discredits this theory³.

In as much as senile cataract is always bilateral, most persistent efforts have been made to find some general disease or dyscrasia to explain its cause. In one series of senile cataracts Deutschmann⁴ found albuminuria in 33% and he introduced the term *cataracta nephritica*. Becker found in one series of albumin in 18% and in an-

other series 2%, de Schweinitz⁵ gives 6% of cataractous patients as albuminuric and the great majority of observers find albuminuria uncommon, and furthermore the percentage of albuminuric patients who have cataract is small. One per cent. of cataracts show glycosuria, and to sugar in the media surrounding the lens was attributed the lens degeneration; but experimental research has shown that a much higher percentage of sugar in the media is required to produce opacity of the lens than is ever found in the worst diabetic. Nephritic disturbances are therefore sometimes coincident with cataract, but observations fail to show any general etiological connection between kidney lesions and opacity of the lens.

Michel tried to prove that cataract depended upon atheroma of the carotid arteries, but a number of observers have disproven this. General angiosclerosis, and particularly of the eyes, has its advocates. Green⁷ of Dayton examined 255 eyes with incipient cataract, having an average age of 69.4 years, varying from 60 to 65. In only 5.9% was the blood pressure below 130 mm. Hg. Thirty-two per cent. had an average blood pressure of 137, and 62% an average blood pressure of 177. Fifty cases of mature cataract had an average of 68 years and an average blood pressure of 161, and none had a pressure less than 130. Green considers angiosclerosis as the most common cause of cataract, although his statistics show, for an average age, about the same average blood pressure for those who have no lens opacity at all. These statistics were based upon the examination of 910 eyes of old soldiers in the Home at Dayton. Green's later statistics, (Jour. A. M. A. Aug. 1, 1908,) based upon an examination of 400 old soldiers, 200 with blood pressure below 160 mm. and 200 with blood pressure above 160 mm., show a slight preponderance of incipient cataract in those of the higher pressure, although his statistics are contradictory. But on the contrary, the observations of Marple⁶ and Fraenkel and Garipuy discredit angiosclerosis as being a factor in cataract etiology, while Jackson states that he "does not believe cataract to be closely associated with vascular disease, but is most nearly explained by observations in the direction of a poisoning of the lens substance—some sort of autointoxication⁷."

This brings up Römer's hypothesis of cytotoxins as a causative of senile cataract. Römer has followed out the side chain theory of Ehrlich and by complicated experiments has proven

³Diseases of the Eye.

⁴Jour. A. M. A., Vol. 51, No. 5, p. 404.

⁵Quoted by Parsons, *ibid*.
⁶Quoted by W. F. Norris, Norris and Oliver's System, Vol. IV, p. 320.

⁷Transactions American Academy of Ophthalmology and Oto Laryngology, 1907.

at least to his own satisfaction, that under certain pathological conditions a lens toxin is formed in the body which has a specific affinity for the lens cells. After the cell has become poisoned its regulating function and that of the capsule is interfered with, and osmosis takes on an abnormal activity resulting in cataract. Dr. Rigorbert⁸ considers Römer's theory most plausible, but states that the nature of the toxin has not been determined, whether a true cytotoxin or a chemical, such as uric acid. He thinks the poison acts through disturbed circulation in the uveal body, with degeneration of the secretory apparatus, thus affecting the pabulum of the lens. On the contrary, Parsons is skeptical, and states that he considers the work which has been done in cytotoxins in general to be the weakest part of the structure which has been built upon the basis of Ehrlich's side chain theory.

Dr. Risley of Philadelphia, in 1889 reported "sixty cases of incipient cataract, between 42 and 82 years of age, in private practice, in which there was shown in upwards of 50% a clear history of weak eyes and long standing asthenopia, often reaching back into early life. Choroiditis in varying degrees of severity, with vitreous opacities was noted, and carefully described in one or both eyes in 60% of the cases. In the remaining 40% no note was made of the intraocular conditions, or the opacity was too far advanced to permit ophthalmoscopic study of the fundus, but in many of these, the intraocular disease was rendered probable by the weak and irritable eyes, asthenopia, and the chronically injected or inflamed extraocular membranes, with swollen and red caruncles, while the episcleral and anterior perforating vessels were full and tortuous, indicating unmistakably the pathological process progressing within the eyeball. In many of these cases, as soon as the opacity had advanced sufficiently to shut out the light from the eye, the external irritation and asthenopia more or less rapidly subsided." Risley⁹ thus maintains that a majority of senile cataracts are dependent upon retino-choroidal disturbances.

A few words are apropos of what I have termed "Risley's choroiditis," a pathological condition for the most part first described by Risley¹⁰. This condition includes those conditions of choroidal hyperaemia described by the terms irritable fundus, flannel red retina, moth eaten retina, ill defined vitreous opacities, either dust-like or fine spider web, with disturbances and

absorption of the pigment layer of the retina, and particularly the beginning of a conus about the disc (a local choroidal atrophy), with perhaps abnormal pigment deposit. Most of such eyes present asthenopic symptoms, and may or may not be able to get 20-20 vision. Clinically such manifestations are found in eye strain, and in certain rheumatic and gouty tendencies and following exposure to excessive light or heat. These observations explain the prevalence of cataract in sunny India. Many observers (Schulek, Schwitzer, Widmark, Herzog, etc., quoted by Parsons) failed to show the direct production of cataract by light or ultra-violet rays, however, strong light is notoriously productive of choroidal changes as above described (Risley de Schweinitz and others). Personally I have seen oedema of the retina, with relative scotoma from intense electric light.

The logical conclusion is that untreated asthenopia is largely responsible for cataract. As Gould puts it: "The suggestion comes that it (cataract) is at least partly because of denutritive conditions set up by the severe strain of presbyopia added to that of preëxisting ametropia. This theory derives clinical support from the fact that cataract does not arise when the eye has been kept in an optically correct, healthy and physiological condition for twenty years before the cataract age¹¹." These American observations are worthy of further consideration, and from a practical standpoint are superior to some from across the water. De Schweinitz gives Risley due credit in his text-book.

CONCLUSIONS:

I. The etiology of senile cataract is in many cases obscure.

II. No single etiological factor can account for all cases of senile cataract.

III. A majority of cases of uncomplicated senile cataract probably depend upon nutritional disturbances of the uveal tract (Risley).

IV. Asthenopia, clinically is responsible for many of these uveal disturbances, consequently measures which will relieve asthenopia, e. g. careful refraction, alteratives, sedatives and hygienic means, are prophylactic to cataract.

DISCUSSION.

Louis Stricker, Cincinnati: The section is to be congratulated on the presentation of a paper of such scientific value, far too much so to be properly discussed in the few moments allowed.

The etiology of cataract will never be solved by seeking to center all, in one single specific factor. A number of factors will always be found

⁸Weiner *Klinische Wochenschrift*, Aug. 20, 1908.

⁹Incipient Cataract, Its Etiology, Treatment and Prognosis. S. D. Risley, *University Med. Magazine*, March, 1889.

¹⁰Trans. Med. Soc., State Pa., 1881. School Statistics.

¹¹G. M. Gould, "The New Ophthalmology, Etc.," read at the Section of Ophthalmology, International Congress of Arts and Science, St. Louis, 1904.

to be acting simultaneously. These may be classed under two heads.

First, those due to the interference with the regular physiological retrogression of the lens and its elements, and the uninterrupted formation of the nucleus; this leads to the formation of splits and fissures in which the nutritive supply stagnates and the lens fibres being cut off from a fresh supply undergo degenerative changes, thus leading to the first evidences of cataract formation, and which can be seen ophthalmoscopically as fine radiating lines either in the equatorial region or immediately surrounding the nucleus. Once set up the process continues. Every time the focal power of the lens is changed the lens springs and when the formation of the nucleus does not progress in an absolutely regular manner these slits and fissures are bound to develop. We all know that presbyopia develops about the fortieth year, and any marked nutritive disturbance coming on at this time is apt to lead to nutritive disturbances in the lens which will interfere with the regular retrogression and nucleus formation; this led Becker to the remarkable conclusion "that whether an individual is to have a cataract at sixty is already determined at forty." The constant change in focal power serves another important function, namely, in a physical manner aiding in the onward flow of the nutritive supply, a process not unlike the diastole and systole of the heart. Thus the flood which has served its purpose is forced onward and a fresh supply is taken up. This together with the suction power along the line of the canal of Schlemm secures a constant fresh nutritive supply. Any stagnation of fluid in the inter-spaces will undoubtedly cause this soon to undergo chemical change and to lead to nutritional and chemical changes in the adjacent lens fibres.

Herein will be found the answer to the previous speaker question, after presbyopia sets in, improperly adjusted or lack of glasses leads to excessive accommodative effort which can only favor the development of splits and fissures, whereas the lack of accommodative effort favors the stagnation of the fluids.

The second set of causes are chemical in nature, extremely delicate, and it is immaterial what the nature of the underlying general disease may be—Brights, diabetes, gout, arthritic changes, arteriosclerosis, anaemia—any disease in which an chemically altered nutritive supply is offered to the lens especially over a long period of time it cannot fail to lead to chemical alteration in the lens fibers and to a change in the index of refraction of the fibers which manifests itself to us as opacification, namely cataract. Nowhere else in the body does a similar condition exist, the lens is entirely devoid of nerves, blood vessels and lymphatics completely surrounded and bathed in its nutritive supply and it would seem from the very nature of things that in this fluid would be found the source of the cataractous changes in the vast majority of cases.

W. H. Snyder: Concerning the pathological condition of the tissue in question I shall say nothing, as I believe the later works in pathology offer the same answers to this question. But I have certain well-grounded beliefs as to the etiology which I shall be glad to talk about. I

am glad that the doctor does not believe in the oft-repeated maxim, that "every one will have a cataract if he lives long enough." Dr. Knapp was in the habit of repeating this, but all one can say of this as a truth, is that the longer one lives the greater the chance of *some* disease occurring in the lens, which *may* be a cataract.

I want also to clear up the statement that cataracts seem to be hereditary. I am willing to grant that they occur frequently in adults whose parents have also had this disease, but it is more the result of the same vicious ocular surroundings than true heredity, just as a few years ago tuberculosis was supposed to be hereditary; while now it is known to be the direct result of the infection of the living. So it is in many of these eye cases.

The parents feel that glasses are a mere fad or style, and when at last they are forced to get them by failing vision, they pride themselves on paying a shilling a pair for glasses, and fitting themselves. And they deny them to their children until they are old enough to express their own judgment. It is in this particular type of eyes, hyperopic, able to stand tremendous strains, never-tiring, as well as so-called asthenopic "hot" eyes, with marked choroidal congestion, irritable retina, never comfortable, unable to wear anything and work, and in a constant state of hyperemia, which furnish the bulk of cataracts of this senile, so-called type.

I wish particularly to make the point that there are two types of eyes, both particularly susceptible to cataract, the one as I have mentioned as never having needed glasses, although over-worked, and the one which has never been well, although it has never worked.

I cannot escape the conviction that the largest single factor in etiology is something very near what Risley states an "error of refraction"; with a general low grade inflammation of the whole eye, especially of the choroid. In eighteen years I have seen a number of cases become cataractous, and I think we can make a fairly accurate statement which will cover a large percentage of these cases; that is, we may mistake a few but the large percentages will have cataract if strong measures are not taken to avoid it. A factor which I believe should be taken into account, is that poor lenses, badly ground, and badly centered, and not thoroughly transparent, are quite as important a factor as if the focus were not correct.

As regards the measures necessary to prevent cataract, I wish we might have a discussion which would cover this ground, as I am firmly convinced that much can be done to hold these cases stationary and under certain conditions they may clear up slightly. I regret for argument's sake that I am compelled to subscribe to the essayist's conclusions, and to such a large extent that I accept them in toto.

J. W. Millette, Dayton: In the work which has been done by Dr. Greene he has never at any time, as I understand it, claimed that arterio sclerosis or high blood pressure is the cause of cataract. He has claimed constantly, though, that there is an extremely close *association* between high blood pressure and cataract.

The statistics which were quoted were prepared by me. In comparing them it is necessary in order to give a just estimate, to consider the

whole two hundred cases which were below 160, and the whole two hundred which were above, since the numbers in separate decades are unequal and too small for just comparison. Such comparison shows a difference of seventeen cataracts more among those patients having a blood pressure above 160 than below 160, making an average of 18.2-10 per cent more cataracts in patients with pressure above 160 than below.

I believe we will find, after all, that Prof. Metchnikoff's theory will prove a good deal as to the cause of cataract. Faulty-metabolism and its effects being the cause of arterio sclerosis, cataract and all those conditions of old age.

Mark D. Stevenson, Akron: Striations in the lens are commonly first noticed in its lower nasal portion. I have wondered if this may be perhaps partially due to the proximity of insertion of the internal rectus muscle. The muscle is inserted farther forward than any of the others, and is employed more constantly in convergence and in helping to rotate the eye downward than any other ocular muscle. Traumatic cataract by injury to the lens capsule permitting entrance of the aqueous is understood. I have often thought that the chemical nature of the fluid entering the lens might explain cataract. The capsule no doubt gets sustenance from the fluids about it. The constant wrinkling of the lens capsule may in some way interfere with this selective ability which may also be partially interrupted by the changed chemical or other condition of these fluids. This may be due to arterio-venous, inflammatory or other changes in those portions of the eye which secrete these fluids.

D. T. Vail: I feel that this discussion should not come to a close without taking some recognition of the work which has been done in this field by Connor, of Detroit. He read a paper last year as to the cause of incipient striated cataract which has attracted a great deal of attention. He sent communications to the leading oculists of America, asking for information regarding the spontaneous disappearance of this kind of cataract, and with the answers received he compiled a paper on the cure of incipient striated cataract and presented it to the American Medical Association. It was found that there were many men all over the country who had had cases of this form of cataract which had positively disappeared, and his decision was that incipient striated cataract has its origin in causes referable to the gastrointestinal tract. After putting these patients on a change of diet and relieving intestinal canal of poisonous material by various methods, he was able to cure beginning cataracts. I believe there were twenty-two cases reported by him and something like nineteen or twenty had recovered in six months or a year, every lens becoming perfectly clear.

Now, we have the Connor theory of auto-intoxication, we have Dr. Stucky's theory of indicanuria, we have Dr. Greene's high blood pressure theory, we have Gould's theory of faulty and neglected refraction of the eye, and we have several other theories. What is the real cause? I am reminded of the old nursery rhyme: "Our old cow, she crossed the road because she crossed the road, sir. The reason why she crossed the road was because she crossed the road, sir."

I suppose we have cataracts simply because we have them, and that is all we can say on the subject at present.

C. F. Clark, Columbus: I wish to say in regard to the causation of cataract that I think the reasons assigned for the theory under discussion are not sufficiently convincing. It is probable that Dr. Risley's investigations will help us in understanding the subject but I think we are a little prone in the study of medicine to take up with an ingenious theory and work it a little too hard. While I thoroughly believe in the secondary effects of errors of refraction, I think Dr. Risley's position, so far as it concerns the causation of cataract, is not yet established. I have found in a large proportion of my cases in which a cataract operation has been performed that an examination of the retina and choroid has revealed a comparatively normal condition and, in general, these patients have gone on for years with excellent eyes. I do not think Dr. Risley's point is well taken. I believe a refraction error is, perhaps, a contributory cause and should be given full weight, but to state that almost all cases of cataract can be traced to errors of refraction is, I think, a mistake. It is probable that we will discover some other causes. I think that the choroidal and vitreous changes that we very often see in examining the fundus of the eyes, and which never develop into cataract, are evidences in this direction. Some theory founded on auto-infection or infections which are peculiar to this structure it seems to me would account for it much better. I have seen many cases of cataract in people who were apparently perfectly healthy, who after extraction presented no evidence of degenerative changes in the vitreous. I have seen too many cases of this kind to be willing to accept the theory of Dr. Risley in its entirety.

Dr. Lukens (in closing his own paper): In answer to Dr. Stevenson's inquiry as to peripheral opacities: Dr. Schön called attention to these and on them based his accommodation theory for cause of cataract. He found 1140 cases in 6689 patients—seventeen per cent. They usually started at the junction of the zonule fibres with the capsule of the lens. Schön erroneously thought that these opacities were caused by a tugging on these fibres, due to excessive accommodation, but in fact accommodative effort relaxes these fibres, and allows the lens to assume more globular form.

In regards the discordant views of cataract etiology, I think the trouble is, as has been suggested here, that some person gets one idea and rides it to death. He tries to make all cataracts come from that cause. That is not the case. The etiology is varied, and no doubt all the hypotheses that have been suggested have been in some cases causative of cataract; but it is a question of percentages.

Risley's choroiditis has been misunderstood. This condition is not choroiditis with gross atrophic changes, but consists of circulatory disturbances, causing absorption of the pigment layer of the retina, and especially the formation of a conus at the disc, usually at the temporal side. A Risley choroiditis will quiet down when the lens becomes opaque, and upon extraction of

the lens, the fundus might at first appear healthy, but if this type of choroiditis had previously existed, its marks would be left by the conus, disturbed pigment layer, etc. Risley's choroiditis has been further misunderstood in that it never pretended to account for all senile cataracts, but only about sixty per cent.

MEDICAL ECONOMICS

By J. W. CLEMMER, M. D.

Medical organization is universally admitted by all members of the profession to be necessary in order to maintain its dignity and its interests against the attacks of fakirs, charlatans and commercial interests. The arts of duplicity and trickery of the enemy are at times directed so adroitly as to deceive the unsuspecting physician. Thus he is entangled in the meshes of evil associations unawares until too late for correction.

The inviting of a notorious enemy of the medical profession to address a medical society in Columbus recently, perpetrated upon its members, is illustrative of this observation.

The Editor of the Minnesota State Medical Association Journal says of the Boston medical cult: "The general supposition is that some one had taken a large Christian Science pill in the evening, and a large Emmanuel movement was the result in the morning."

The editor seems to regard the affection as sporadic, affecting the Emmanuelites exclusively. The fact is that the colonic disturbance here mentioned is included under the generic term of "the drugless movement," which is pandemic and chronic."

It cost the government \$100,000 to determine upon the use of the benzoate of soda as a food preservative. How much it cost the manufacturers of foodstuffs no one can tell, except those interested in the deal, and they will not.

MEDICAL ADVERTISING.

The proper relation between the public press and the medical profession remains for future development. The problem of medical advertisement presents the greatest difficulty. Many publishers charge double rates for the disgusting advertisements of quacks and fraudulent nostrums. This excess in rates expresses the undesirability of such advertisements. The attitude of the profession in this matter is not understood. Protest is imputed to selfish motives. The publisher fails to recognize the fact that medical organization, as such, must defend the medical interests of the public. Every family of moral worth feels it

must suffer the indignities of filthy, suggestive advertisements or get on without the daily paper, yet no member or organization of the public will make sufficient protest to check the evil; meanwhile the publisher goes on the theory or the fact that he needs the money.

Two years ago, when this subject was brought to an issue before a committee of the Legislature and discussed pro and con by representatives of the Ohio Associated Dailies and of the profession, a compromise was reached by which it was agreed that the advertisements of cures for venereal diseases should be prohibited by law. By a trick of one of the members of the House, acting as legal adviser for the advertising specialists, the bill was defeated. Another measure of like import will be presented to the Legislature this winter. The Federation of Women's Clubs and other organizations supported the bill two years ago by petition and personal representation before the committee. The publishers of daily papers are disposed to measure up to the monthly magazines and these no longer carry the burden of objectionable medical advertisements. The success of this measure before the General Assembly lies largely with the activities of the Auxiliary Committee.

THE RED CROSS.

The American Red Cross, auxiliary to the Geneva Red Cross Society, presented to the House of Delegates of the A. M. A. at its last meeting a request, in effect that all hospitals, health departments and like institutions, individuals, associations or business firms kindly desist from the use of the Red Cross insignia for the reason that by international agreement in the Treaty of Geneva (revised in 1906) this insignia is reserved for the humane purpose of rendering the personnel and property of the Red Cross immune from attack and capture in time of war.

The House of Delegates adopted the following resolution:

"That it is the sense of the American Medical Association that the use of the Geneva cross by associations or individuals, other than those of the army, navy and Red Cross Society, should be discontinued, and, if desirable, some other insignia adopted."

On motion the president was instructed to appoint a special committee to select a new insignia for the association and to report at the next meeting.

The familiar red cross on a white background by association of ideas has secured a high degree of respectability, akin to the "U. S." The protest

of the Red Cross Society of the improper use of its emblem has been respected by the A. M. A. This action respects the authority of international treaty, as well as the exclusive—if not the sacred—purpose of the insignia.

Commercial, professional and personal interests will doubtless conform to this request of the Red Cross Society and this action of the American Medical Association.

An Ohio citizen traveling in England and while stopping in London had occasion to employ a physician. With names omitted, the following is a copy of the account rendered:

70 Russell Square W. C., London.

Dr. presents compliments to and begs to intimate that his fees for professional attendance amount to

"It is quite English, you know." In this country no obsequious apology veneers a bill for medical service. To make such apology conveys the suggestion that the patient-debtor imposes upon the courtesy or "compliments" to delay payment until after other creditors are satisfied. This tendency to lax business methods in the profession is bad policy and bad practice. The suavity of the physician in financial relation to his patient should yield a duty to his family that will serve a purpose in after life and perchance after his demise.

DRUGLESS HEALING COLLEGE.

Articles of incorporation have been secured from the Secretary of State for the American University of Ohio, which will establish a school here (Columbus) for the advancement of drugless healing.

The incorporators were Dr. C. S. Carr, Dr. J. A. Vance, Dr. James Armstrong, former secretary of the Indianapolis Physio-Medical School, G. M. Williams and C. Lehman.—(News item.)

Drugless healing is to be championed by the advertising manager of the Peruna Drug Company and a representative of the physio-medical system of drug therapy. It is not clear how this combined experience in drugs has led to drugless healing. If it is an outgrowth of scientific research, what are the virtues of Peruna and herbs in the evolution of drugless therapy?

This movement was forecast two years ago, when the handwriting on the wall of non-medical healing revealed the artistic hand of the Proprietary Association of America. The passage of the federal and state pure food and drugs acts inspired a coalition of all forces in opposition to

the medical profession. Medical men in promoting humane legislation and further exposing the medical frauds and fakes foisted upon an unsuspecting public, by instituting the Council on Pharmacy and Chemistry of the A. M. A., have incurred a fusillade of abuse from proprietary interests. Everything for which the A. M. A. stands, and even the personnel of the organization, has sustained the scurrilous invective of proprietary influences.

The conjoined forces of proprietary interests and cult healers—a queer combination, to be sure—as exhibited in the articles of incorporation of the American University of Ohio, are united on a commercial basis, primarily to conduct a business for profit and incidentally to secure legislation for the practice of medicine. The healers desire a state examining board to confer the degree of "doctor or professor," without qualification, on a parity with licensed physicians.

The position of drugless healing maintained by sophistry or stupidity that the therapeutic resources of physicians are limited to the use of drugs give to the devotees of cult systems an opportunity to work this fake assumption into the heads of unwary people, with its reflex influence in legislatures, in the jury box and the court itself. Thus it is that state medical standards represented in sanitary laws and in the Medical Practice act, created in public health interest, are violated and traduced in a spectacular show by the motley aggregation of fakirs, mountebanks and healers.

POINTED PARAGRAPHS FROM THE SECRETARY'S MEETING.

Hard hits and plain facts took the place of bouquets.

Less than one-half the secretaries responded to a personal appeal from the President of the State Association for data concerning the work and standing of the component societies.

When secretaries get tired they should be retired. They must walk faster to keep the pace demanded by efficient work, or get out of the profession.

"Seven councilors are not doing good work." The terms of councilors are too long. They should either be elected by the District Society or placed in nomination by this body, on the principle of referendum and home rule.

Good secretaries are born not made. Qualification regardless of every other consideration should determine the selection of the secretary.

The "country doctor" ranks higher ethically than the city physician.

One of the faults with some societies is failure to open meetings promptly at the stated time.

Official and routine business of the society, unless small in numbers, should be left to its council or executive committee.

Good work of a society with proper relations to the public creates a popular demand that forces every qualified physician in the county to be a member—a fact cited from a number of county organizations.

A society whose roster of membership shows only one-half the eligible physicians is not in a prosperous condition.

One of the incentives to attendance is a program that promises more profitable results than the prospects of an office hour.

Among the larger societies, those dividing their activities into sections are doing the best work.

The younger members should be encouraged by giving them something to do.

Complaints from one or two societies that sectarian physicians are not desirable members, as oil and water will not mix, were met by the statement that when properly treated oil and water make a useful soap.

Little matters of business kill the interests in the work of a society.

Non-attendance of the councilor was frequently noted in reports of secretaries.

Reports that the surgeons have a tendency to monopolize the time, coming up from a few counties, were met by: "Harness your surgeons. Place them in a section or in discussions on symposia, such as typhoid fever. They will not have too much to say on such subjects."

Bad roads and long distances to society meetings, in some districts, work hardships to some members. This argues the necessity of a live secretary to work out such a program and interest as to make it worth while, socially and scientifically, for such members to overcome these barriers.

Banquet occasions are well attended. Fair weather members turn out when there is something good to eat. Such expediency was questioned by one member.

The inconvenience of travel for some councilors to reach their counties suggested the remark that the districts on the map might have been marked out by a blind man.

Short, crisp papers, free from the perfume of text-books, are the best to hold a society together.

In some societies there may be found men marked by "senile obstinacy whose ambition it is to run things in the good old way."

Fee bills are of little practical use. The matter of charges must vary according to the ability of the patient to pay. Neither a high nor a low fee

can be fixed. Neither can a uniform fee be fixed to any purposes, except as a guide in court procedures. The time of one physician is more or less valuable than that. The fee question is largely an individual matter and never will be reduced to a uniformity among members of a society or the profession.

Physicians who are not gifted with an aptitude for public speaking should not be bored with repeated requests to read papers.

The District Society should devote much of its energies to matters of importance aside from scientific work, leaving this to the county and state organizations. A public meeting in the evening should follow the program of the day. Subjects of public interest could be presented by representative physicians, and laymen invited to take part in the discussion.

Many societies do not meet often enough.

One meeting during the year should be given to the public.

The allied professions should be invited to attend certain meetings, arranged with a view to mutual discussions and benefit.

The Association of State Secretaries should meet twice yearly.

The work of a good secretary brings more honor and accomplishes more good than attaches to any other office in the County or District Society.

The secretary is the biggest man in the county society.

A Painless Mercurial Injection.—Lambking's formula for a painless mercurial injection is given in the *Journal de Medecine de Paris* for June 5 as follows:

R Metallic mercury (by weight)..... $\frac{5}{16}$ ss
Wood creosote $\frac{5}{16}$ ss
Camphoric acid $\frac{5}{16}$ ss
Palmitin, enough to make..... $\frac{5}{16}$ iii

Or the following formula may be employed:

R Calomelgr. lxxv
Wood creosote $\frac{5}{16}$ ss
Camphoric acid $\frac{5}{16}$ ss
Palmitin, enough to make..... $\frac{5}{16}$ iii

M.

These creams when intimately combined form painless preparations for hypodermic injection, and they melt at the body temperature, or say 98.6 degrees F.—Practical Therapeutics.

Improper breathing is a frequent cause of consumption. A large majority of people are too lazy or too ignorant to breathe deep, and hence the lungs are developed only to part of their capacity and thus afford fertile field for the growth of the tuberculosis germ.

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THE COUNTY SECRETARIES.

The meeting of the County Secretaries held recently in Columbus brought out many important facts which merit careful consideration. There has been a dropping off of interest in organization work in many sections of the state, and the situation was met fairly and discussed freely. One cannot judge of the prosperity of our State Association by the size of the annual meeting, and though our meeting in Cincinnati broke all records, this should not be taken as a sign that we are doing our best work and rest on our oars.

We do not mean to belittle our last meeting—it was a great success, due largely to the excellence of the programs presented in the various sections, and to the generous hospitality of our Cincinnati hosts, but the time has gone by when we can afford to be content with even such a meeting unless we have a corresponding showing of interest in all the counties throughout the year.

The County Societies are the State Association, and their well-being constitutes the true prosperity of the organization as a whole. Many decry attendance upon county society meetings because they tire of the reading of papers. While the latter is often of greatest value to those who write the

papers, the discussions frequently bring out much of interest, and if each member would feel it an obligation to contribute in some way to the program each year, the programs would never lack interest.

But even this is not the entire function of the county medical societies. They stand for the medical profession in each community; they represent it as a concrete body and as such should have an influence in many civic and all health questions. They should bring the members together frequently in social as well as scientific communion, and give opportunities for better acquaintance and the breaking up of the isolation that so frequently surrounds us and breeds prejudice, jealousy, back-biting and all the petty evils that have been the bane of our profession and have hurt our standing and usefulness in society.

It was brought out in the secretaries meeting that the president, W. H. Snyder, had written a personal letter to every secretary in the state, inquiring as to the status of each society. Less than one-half responded! Not a very good showing.

The success of a county society depends so much upon its secretary that unless he is enthusiastic, understands and appreciates the necessity and economic value of the or-

ganization work, so much so that he is willing to sacrifice time and expend his services freely in its behalf, he ought not under any circumstances assume the responsibilities of the position.

The fall work is now well under way; many annual elections will soon be due. Let the position of the county secretary be awarded with the greatest care, and let every one accepting this honorable position determine, NOBLESSE OBLIGE, to endeavor to make the most of his opportunities for his own sake, for the good of his colleagues of his own county, and so on for the good name and fame of the whole medical profession.

THE BENZOATE OF SODA VOTE.

Reference was made last month to the adoption at the Denver meeting, ostensibly in behalf of pure foods, of the resolution approving of the decision of permitting the use of benzoate of soda as a food preservative.

The adoption of this resolution appears to have been engineered from the start to finish and forced upon the convention in spite of protests of many of its members. The ordinary course of such a resolution would have been a reference to a committee for action, which might have delayed final consideration perhaps for a year, in which time further testing and observation might bring out important facts pro or con.

Our own Food and Dairy Commissioner took this stand, and protested against the precipitate action of the convention in considering the resolution at this time. Surely no other term than *precipitate* seems to fit this action. The report of the referees certainly ought to fail to carry conviction to really earnest seekers after truth. Certainly it would seem to us that our official food commissioners ought to give the people the benefit of any doubt in a question of this character.

Evidently somebody cracked the whip, however, and the majority fell promptly in line.

THE TREATMENT OF TETANUS.

With all the great advances made in medicine along so many lines, the treatment of tetanus remains almost as unsatisfactory as ever. As reports appear of new methods employed, only to be discredited on further trials, one cannot help but feel somewhat pessimistic, and as Trendelenburg said of the use of anti-tetanic serum, "Die leichteren Falle heilen auch ohne, die schweren sterben auch mit Serum" (the milder cases recover without, the more severe die with serum), so we might extend the same dictum to any treatment known at the present time.

Great hopes were entertained from the use of the specific serum only, thus far, to result in disappointment. The cause of failure is said to be due to the fact that the tetanus toxin forms a combination with the nerve cells which the anti-tetanic serum is powerless to affect; the uncombined toxin present in the circulation may be neutralized, but the combined toxin continues its activity unabated. Here lies the problem apparently for our investigators—how may this malicious combination be broken up? Will greater doses of the serum be of any value? We recently saw a severe case in which twenty-four thousand units of serum were injected within a few hours after the appearance of symptoms with absolutely no apparent effect in staying the progress of the disease. Experience showed some years ago that large doses of diphtheritic anti-toxin were only beneficial, perhaps even relatively much greater might prove helpful also in tetanus.

As for other methods of treatment, morphine, the bromides and chloral have been found wanting; some favorable results have been claimed for large doses of

chloral, but these were doubtless the "leichteren Falle"—the milder cases—which would have recovered anyway. We have seen chloral pushed to apparently the very limit of safety in severe cases, without benefit.

Chloretone is probably the latest substance to be advocated, and is at present doubtless being tested more or less widely.

Hutchings, of Detroit, reported six cases at the American Surgical Association last June. Of these, one was a mild case, three were severe, and one was fulminant.

The chloretone was given dissolved in whiskey in 30 to 60 grain doses, and four patients recovered; the fulminant case ended in death.

Magnesium sulphate solution injected into the subarachnoid space has also been recommended. We have used this treatment in two severe cases recently without the slightest benefit; possibly not in sufficient dosage, but inasmuch as the margin between the therapeutic and the lethal dose of this substance is but slight and as some deaths have followed its use, one must use great caution in employing it.

No one can say that there are not many cases on the borderline between the "mild" and the "severe" classes, where the balance has not been turned favorably by the use of one or another of the above methods, and therefore at present one is certainly justified *faute de mieux*, in the vigorous use of any means which has ever been found beneficial, or what is better, combine several of the later more approved treatments, as they in no way conflict, somewhat as follows: (1) Clean the wound thoroughly and swab out with tincture of iodine; (2) Neutralize the circulating toxin by large doses of anti-tetanic serum; (3) Use with due caution the sub-arachnoid injections of magnesium sulphate; (4) Give chloretone by mouth or per rectum; (5) Encourage elimination by salines and enemata; (6) Support the

strength of the patient in every conceivable way—and hope for the best.

There is one field, however, in which the anti-tetanic serum is of great value, and that is as a prophylactic; its use should be greatly encouraged in all cases where there is a possibility of tetanus infection, such as in the accidents so numerous on our "Glorious (?) Fourth of July," and also in punctured or lacerated wounds of the extremities. If in wounds of this sort anti-tetanic serum should be used as a routine treatment, we believe the disease would grow less and less frequent, instead as it would appear, being decidedly on the increase.

This seems to be the limit of our power until our investigators show us some way of breaking up harmlessly the vicious cellular combination of nerve tissue and tetanic toxin.

EDITORIAL NOTES

APPEAL TO THE MEDICAL PROFESSION OF THE WEST AND SOUTH.

Up to the present time there has not been a concerted effort made to collect and preserve historical data in regard to the origin, evolution and personnel of our profession in this part of our country. The result of this delinquency has been the total loss of much material that should have been preserved, especially pertaining to medical schools and societies, and biographical matter in connection with the practitioners and teachers of medicine of by-gone-days. A good deal of material of this character is still obtainable if a systematic effort is made to locate and preserve it. It is in the possession of individuals, families and private libraries and will eventually be lost. *The Western Association for the Preservation of Medical Records* was organized in May, 1909, for the purpose of collecting the historical and biographical records of the profession of the West and South. We wish to preserve anything and everything pertaining to western medicine and medical men and are anxious to enlist the active help and support of every member of the profession who is in sympathy with our aims. We want every one to become associated and identified with the work of our Association. There are no fees or obligations of any kind. We have

made arrangements with the Lloyd Library, Cincinnati, Ohio, for the proper housing of the material collected. The latter will be systematically arranged, catalogued and properly preserved so that it can be made available for research work. We are particularly anxious to obtain:

1. Medical journals published in the west prior to 1880.
2. Medical books and pamphlets written or published in the west.
3. Manuscripts and autographs of early western physicians.
4. Old diplomas and other documents of a medical character.
5. Proceedings of medical societies.
6. Reports of hospitals and other medical institutions.
7. Catalogues and announcements of western medical colleges of all schools.
8. Biographies and portraits of western physicians.
9. Information and material of any kind pertaining to medicine and medical men and affairs in the west.
10. Curios of a medico-historical character.

All contributions should be sent in care of the librarian. In view of the fact that we are performing a labor of love and have no funds, our friends and associates will readily understand why all contributions sent by express or freight should be prepaid so that no expense may accrue to the Association. The necessary expenses of the Association are at present being met by voluntary contributions of its organizers.

May we not count upon *your* active help and support? We would like to hear from every member of the profession who is interested in the proposed work.

C. A. L. REED, M. D., Chairman.

OTTO JUETTNER, M. D., Secretary.

A. G. DRURY, M. D., Librarian,

710 W. Eighth St., Cincinnati.

THE SECRETARIES MEETING.

The meeting of the Secretaries of the county societies was held in Columbus, September 22. An excellent program had been prepared by the chairman, and a great deal of interest was manifested in the discussions.

The chairman, J. H. Seiler, of Akron, presided and his enthusiasm and energy lent an added zest to the proceedings.

The President of the State Association, W. H. Snyder, was present, and in addition to his regular address on the program, in an informal way drew the attention of those present to the possibilities of a medical defense plan in connection with the State Association, and urged the secretaries to bring up the matter for discussion in the various societies so that it may be more or less

threshed out over the state and intelligent opinions may be formed, in case the subject should come up at the next annual meeting at Toledo, as it very probably will.

The consensus of opinion expressed seemed to be in favor of some such plan as a decided beneficial factor of membership in the State Association. It was urged as an attraction to new members and was shown to have an excellent effect in causing physicians to be more careful in expressing derogatory opinions of their colleagues.

The regular program was then taken up as follows: "The Dignity of the County Medical Society," Dana O. Weeks, Marion; "The Place, Purpose and Advantages of the District Society," R. H. Grube, Xenia; "Program Making," Carrie Chase Davis, Sandusky; "The Results of a Circular Letter Sent to Every County Secretary," Walter H. Snyder, President Ohio State Medical Association, Toledo; "The State Convention—A Summing up of the Best in the County Societies During the Year," Fred Fletcher, Columbus; "What the Secretary Can Do to Make a Society Prosperous," O. M. Wiseman, Zanesville; "Summum Bonum," J. H. J. Upham, Secretary State Medical Association, Columbus.

Each paper was freely discussed and many practical points were brought out.

It was the sense of the meeting that such conferences of the secretaries were most helpful, and the chairman should call another meeting before the next annual meeting of the Association. The President, W. H. Snyder, ex-President B. R. McClellan and J. W. Clemmer of the Legislative Committee, were guests of the meeting.

THE NEW TUBERCULOSIS SANITORIUM.

The new State Sanitorium for Tuberculosis at Mt. Vernon will be formally opened on Wednesday the 27th of October by Governor Harmon, who will turn over the keys of the institution to the Board of Trustees. Governors Herrick and Harris during whose administrations the site was purchased and the construction of the buildings begun, will also be present and make short addresses.

The opening will be held under the auspices of the Ohio Society for the Prevention of Tuberculosis, which will hold its meeting immediately at the close of the official exercises. The principal address at this meeting will be given by Dr. William C. White of Pittsburg, Pa.

A cordial invitation is extended to the profession to inspect the Sanitorium and take part in its dedication and the meeting of the Society. The morning will be devoted to an inspection of

the grounds and the institution, which will be in full running order, ready for the reception of patients about the first of November. Lunch will be served at 1 o'clock and the program begin promptly at 2.

The Commercial Club of Mt. Vernon has agreed to furnish transportation from the station to the sanatorium, which is about two miles distant. A large attendance is expected, and in order to facilitate the work of the committee on arrangements it will be necessary for all those who expect to come to Mt. Vernon to notify the Secretary of the Society, Dr. L. L. Bigelow, at 185 E. State St., Columbus. Invitations with full announcement as to program, etc., will then be sent out as soon as final arrangements are completed.

SECOND DISTRICT MEETING.

The sixth annual meeting of the Second Councilor District will be held at Dayton, Ohio, October 26, 1909, beginning at 8:30 a. m. at each of the hospitals where the medical and surgical clinics will be held.

The medical clinic will be in charge of Dr. Hoover of Cleveland and Dr. Crofton of Chicago. The surgical will likely be in charge of Drs. Price of Philadelphia and Murphy of Chicago. These clinics will continue until noon, when we will go to the State Hospital for luncheon and a short clinic on nervous diseases by Dr. Shepherd. Afterwards will meet in their assembly hall to hear the papers. Dr. Crile and others will be on the program. This very profitable and pleasant day will end with a banquet in the evening.

It is hoped that a large number of guests will be present at this time and enjoy the day, as this is expected to be the most successful medical meeting that has been held in western Ohio. A cordial invitation is extended to all physicians.

ANNOUNCEMENT OF EYE, EAR, NOSE AND THROAT SECTION.

The time has arrived to begin the preparation of the program for the Toledo meeting next May.

We want to make this meeting even more interesting than the Cincinnati meeting, which from the standpoint of attendance and scientific interest was a record breaker.

One of the leading oculists of the United States has been secured as the guest of our section to deliver an address on "Concerning Some of the Ocular Manifestations of Carda-Vascular and Renal Diseases."

This subject will be of interest to all doctors and will probably be given before the general session this year.

Our chairman, Dr. Green, of Dayton, in his address, will give a resumé of Dr. Smith's work in India and tell of his interesting experiences while with Dr. Smith in that country.

All those who desire to contribute to the program of the Toledo meeting should send in their applications with probable title as early as possible to the secretary, Wade Thrasher, Cincinnati.

Pathognomonic Sign of Appendicitis.—Illoway, in Archives of Diagnosis, suggests the following as being always present in appendicitis, either acute or chronic, and therefore a sign of great value in those cases wherein the classical symptoms are wanting, of which there are a goodly number:

The patient being in a recumbent position is told to flex his right leg upon the thigh and the thigh upon the trunk and then to extend the limb to its full extent suddenly and forcibly. Usually pain or soreness in the appendicular region is developed or, if already present, is intensified. If none is noted the examiner performs the same movements for the patient but in a more forcible manner than possible for the patient himself to do. Should the patient fail to notice any pain or soreness he is caused to execute the same movements with the left leg and to compare the sensations as developed on the two sides. In Illoway's opinion of the two classes of movement, flexion and extension, the movement of extension is the more liable to cause the pain and soreness and more reliable as a sign of the presence of the disease. The author has verified the importance and reliability of this sign in a number of cases that have been operated on.—Practical Therapeutics.

Carbuncles.—The following is certainly a reliable therapeutic fact: If fresh peroxide of hydrogen be injected freely and thoroughly into a carbuncle, once each day, it will certainly destroy it. Each time the carbuncle is thus cleaned a compress of absorbent cotton, saturated with a 50 per cent. solution of the peroxide, should be laid over the carbuncle, covered with oiled silk and retained with a light bandage. I do not find that any other treatment than this is required.—Marsh, in Ellingwood's Therapeutist.

For 1,000 active troops in the armies of the great world powers, the following figures show the percentage of cases of pulmonary tuberculosis: United States, 4.72; Great Britain and colonies, 2.4; France, 5.3; Germany, 1.5; Austria, 1.0; and Russia, 2.7. The percentage in the general population is much larger.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

NITRITES; DOSAGE AND EFFECT ON BLOOD PRESSURE.

Matthew (Quarterly Jour. of Med., April, 1909, has determined the dose necessary to reduce the blood pressure—30 millimeters of mercury. This reduction he finds sufficient to relieve pain, headache, epistaxis, giddiness, etc., where they are due to hypertension in the vascular system. The doses employed are as follows (except where a patient is found to have some idiosyncrasy to the drug):

Liquor trinitrini 2 minims, if necessary repeated in a half hour. Sodium and potassium nitrites 2 grains, the action lasting two hours, when it may be repeated if necessary. Erythrol nitrate $\frac{1}{2}$ to 1 grain and the effect will last about six hours. Mannitol nitrate 1 grain. In these doses a prompt result is obtained and there is no need of exceeding these doses when used for the purposes here outlined.

INTRAVENOUS ADMINISTRATION OF STROPHANTHIN IN COLLAPSE DURING PNEUMONIA.

Stone (Boston Med. and Surg. Jour., Aug. 19, 1909) reviews the history of this method of using strophanthin and cites certain cases of its use in cardiac collapse during the course of pneumonia in which it was of great value in restoring the cardiac tone. He says:

"Fränkel found that 1 mgm. (1-60 gr.) of the strophanthin properly introduced into the venous circulation produced no unpleasant reaction and called forth a prompt response on the part of the failing heart, which showed itself by the slowing and strengthening of the beat. The change for the better appeared in from five to fifteen minutes and persisted usually for at least twelve to eighteen hours, and frequently lasted for several days. The blood pressure usually improved, though not excessively, and in many cases a marked diuresis set in."

"The cases most favorable for its administration are those of mitral disease with failing compensation; next, those cases of arteriosclerosis where there is but little renal involvement and where the heart has dilated and become incompetent. Pure renal cases with struggling heart were not only *not helped*, but were often retarded in their improvement."

"The action of strophanthin is practically the same as digitalis; the pulse is slowed and becomes more powerful. If pushed, great slowing of the heart is produced, with symptoms of heart block, then fall in blood pressure and rapid, irregular heart, and death. In several cases where death has occurred in the course of the administration of strophanthin, repeated and frequent doses have been given or, still more frequently, strophanthin has been given to patients who have already had digitalis pushed to the limit of safety, and the sudden addition of the strophanthin has been to induce collapse and death in a short time. I found eight cases of death recorded, and know of two others. Personally, I have seen no serious symptoms myself, more than a moderate retardation of the pulse, with a sense of faintness or weakness, which lasted for about twenty-four hours, a condition which showed plainly that no more strophanthin or digitalis medication could be borne by that patient.

"In the introduction of the strophanthin into the vein, great care must be taken that the solution shall be injected into the blood stream. If it gets into the surrounding tissues or into the vein wall it is so irritant that the resulting inflammatory reaction is very disagreeable. Any vein that can be most easily got at can be used, and used repeatedly without any discomfort to the patient. For the majority of cases the median basilic vein at the bend of the elbow will be found to be the one of easiest access. A bandage applied above the point of injection will engorge the vein and make the introduction of the needle more easy.

"One cardiac patient of mine received forty-five different intravenous injections of strophanthin during a period of four months."

Stone agrees with Liebermeister, who in a series of pneumonia cases, although he had no striking results, stated his belief that its use would enable a certain number of severe cases to be carried along until the patient was able to eliminate the toxin of pneumococcus and to get on the sure road to recovery, and reports the following, which illustrates the manner of its use:

"About the twelfth day of the disease, the heart suddenly became intermittent and of very poor quality; in fact, he was practically pulseless. The blood pressure was 115 mm. One milligram of strophanthin was given intravenously; five minutes later the blood pressure was 10 mm.

greater. Thirty minutes later it had risen to 130 and remained there for twenty-four hours. The heart became regular and the pulse returned to the wrist, remaining of very fair quality through the next day. A second injection was given twenty-four hours after the first. From this time on, though very weak, there was an uninterrupted, slow convalescence.

"The urine, which had been 40 to 50 oz. in amount, the day after injection jumped to 90 oz. and remained above 60 oz. in amount for over a week."

Stone advocates the use of the full dose of 1 milligram (1-60 gr.) in collapse in the course of pneumonia, provided there are no contra-indications. He also reports the beneficial effect of strophanthin by intravenous administration in a case of carbolic acid poisoning (taken with suicidal intent) and in one case of collapse in a chronic alcoholic, whose blood pressure had fallen to 50 millimeters of mercury and was not materially benefited by a subpectoral saline injection, but whose blood pressure rose promptly to 90 after 1 milligram of strophanthin and subsequently (in 5 days) to 132.

He further says:

"A sudden post-operative collapse, with an almost imperceptible pulse of about 150, became fairly strong and 120 in rate within five minutes after the administration of a milligram of strophanthin, and from that time on the pulse grew stronger and the patient was no longer a source of anxiety. * * * The large amounts of urine which have been passed by these patients, which are much greater than the ordinary diuresis following the crisis of a pneumonia, make it seem that the strophanthin has also to do with the production of what Meltzer has called the "life-giving diuresis," by means of which the toxic products are more rapidly eliminated than would otherwise be the case."

"When a patient has grown weaker and weaker in the course of his disease, whether it be pneumonia or typhoid fever, the cardiac stimulant of the strophanthin will apparently have little effect upon the gradually flagging heart action."

THE USE OF AN INCANDESCENT LIGHT GLOBE TO WARM ETHER VAPOR.

The following ingenious, yet simple method is described by McRoberts (Jour. Minn. State Med. Assoc., Aug. 15, 1909, p. 357):

"A word about our first mask: It was of the Allis type and dimensions, improvised from sulphite

gauze covered with zinc-oxide plaster, and had the Allis face-piece of rubber and a floor of wire on which is placed some layers of gauze. At its narrow end is inserted an electric light socket, with an extension cord to the electric light current. Within the mask is placed a 16-candle incandescent globe covered with several layers of gauze, the top of the mask being covered with dentist's rubber-dam tissue, in which is cut an opening about the size of a silver quarter."

[The anesthetics are preceded by a hypodermic of morphin and hyoscin and the narcosis begun with chloroform. This, however, is not essential to the method of warming the vapor, which is clearly applicable to any ether administration, and which should always be preceded by at least 1-150 gr. of atropin (or similar drug) one-half hour before the anesthetic to avoid the excess of mucus which otherwise is inevitable.—Ed.]

"The ether can is not opened in the usual manner; it is merely punctured with the point of a needle, and from this comparatively infinitesimal aperture the ether is forced out by the heat of the hand, and sprayed on the gauze over the light, whose heat so rapidly volatilizes the ether that, in from three to seven minutes we have operative anesthesia, without any struggling, sense of suffocation or hypersecretion of saliva or bronchial mucus. * * * From the small aperture in the ether can is measured the quantity that can issue in ten seconds, which is ascertained to be from 30 to 50 minims, depending upon the size of the pin-point used in making the puncture. Spraying the ether for a space of ten seconds, at intervals suffices to continue the anesthesia, hence the number of renewals recorded, multiplied by the known quantity issuing in ten seconds, gives approximately the quantity of ether used. The signal for the renewal of the ether is a slight excursion of the larynx. This reflex we have observed manifests itself before the return of the corneal reflexes. It becomes occasionally necessary to reduce the heat within the mask, owing to the dryness of the mouth and throat of the patient. This is accomplished by shutting off the electric current for a few moments and cooling with the ether."

The advantages of thus giving a warm vapor are: It requires only one-fourth to one-third the quantity of anesthetic usually used; there are no pneumonias from chilling the lung tissue with cold vapor; there is less hardship placed on the kidneys; and (it is claimed) there is "almost total absence of post-operative nausea and vomiting."

(Reviewed in Ther. Gazette, Aug., 1909, p. 571.)

THE MAYO-GILLIAM'S OPERATION FOR SHORTENING THE ROUND LIGAMENTS.

Baker (Bost. Med. and Surg. Jour., Sept. 2, 1909, p. 322) gives a critical review of the after results of ventral suspension or fixation; internal shortening of round ligaments; Alexander's external shortening; and Mayo's modification of Gilliam's internally shortening. The results are very much in favor of this last method which, because it leaves no places for bowel to get caught, leaves the uterus in its normal relation to the belly walls and peritoneum, and in no wise interferes with subsequent pregnancies, should be favored by every one who has occasion to operate to shorten the round ligaments. He gives this brief description of the method:

"As the technic of this operation does not seem to be very well understood by all operators, I shall describe it briefly here. After making a median incision, the uterus is brought up into view and the round ligaments grasped at the elective point, generally about one and one-half inch on either side of the uterus, then a pair of curved (Kelly) clamps are passed with the curved surface next to the fascia above the rectus muscle to the internal ring; here the clamps are turned, the point now being down, passed through the ring and out along the round ligament, *underneath the peritoneum*, to the place of election marked. Here the peritoneum is broken through and the round ligament grasped, the snap removed and the clamp pulled back, inverting the ligament on itself to the abdominal incision. After this has been repeated on the other side, the two ligaments are sutured together and the incision closed, having replaced the uterus in its normal position, where it is there held by its normal supports."

And he adds:

"Since writing the above, I have examined six of the fifty-nine cases reported in which this operation was done, who have subsequently gone through normal labors, the uterus remaining in perfect position."

TO REMOVE WAX FROM THE EAR.

"Syringing with a solution of sodium bicarbonate containing some glycerin is very efficient; the wax is gradually softened and easily removed. When it is desired to remove the wax at once, hydrogen peroxide is remarkably efficacious. Fill the external meatus with H_2O_2 , let it remain a few minutes. The cerumen will become softened and disintegrated, and can be easily removed by syringing with warm water. Ether has also been recommended for the purpose. The external

auditory canal is filled with the ether from a pipette, and in a few seconds the wax is disintegrated and is removed by gentle syringing."—Medical Summary.

[It is not wise to use H_2O_2 in cases where the ear drum is perforated.—Ed.]

THE LYING-IN WOMAN.

"How long should she stay in bed? According to time-honored custom and belief this should be nine days. Like all ready-made rules, this one should be varied a good deal to suit the exigencies of different cases. * * *

"But the stereotyped advice to the parturient woman, to the effect that she should 'lie flat on her back' for the prescribed length of time, is bad. Rarely is such a decubitus indicated. It is best that she does not assume one recumbent position for too long a time. If the uterus is lacking in tone, hypostatic congestion is favored by one attitude. When not positively contra-indicated, she should sit over a vessel to void the urine and feces, thus calling a certain amount of gravity to her aid. The length of time a woman should lie a-bed is to be determined by her strength, and by pathological conditions which her physician may note, rather than according to the calendar."—Medical Summary.

RECTAL EXAMINATION IN BABIES.

In discoursing on Surgery In Infancy, Stillman (Southern Calif. Pract., Aug. 1909, p. 387) says:

"I wish to urge the practice of more frequently examining infants under an anesthetic, particularly in cases of abdominal trouble. Dr. William A. Edwards, of Los Angeles, has called attention to the value of a rectal examination under an anesthetic in babies. By doubling the infant up and with pressure on the abdomen with the other hand, almost all the abdominal contents can be brought within reach of the examining finger in the rectum."

CANTHARIDES TINCTURE IN ACUTE NEPHRITIS.

By Dr. E. Lancereaux (Bull. Med., No. 13, p. 149-150, 1909; Ref., Fort d. Med., June 20, 1909, p. 663.)

"Cantharides has been generally abandoned as dangerous. In contrast to many other medications, the mode of action of which we know little, we know of cantharides exactly upon which organ it acts. The author has employed this remedy in acute parenchymatous nephritis with oliguria

and anuria respectively. To children he administers one drop; to adults five to six drops of the tincture of cantharides in a slimy vehicle (about 200 grams of gum mixture). He obtained rapid increase in the amount of urine, disappearance of edema and very rapid cure. The name of this distinguished clinician may encourage the cautious adoption of this medication."—Post Graduate.

BOOK REVIEWS

TUBERCULOSIS: A PREVENTABLE AND CURABLE DISEASE. MODERN METHODS FOR THE SOLUTION OF THE TUBERCULOSIS PROBLEM. By S. Adolphus Knopf, M. D., Professor of Pthisio-therapy at the New York Postgraduate Medical School and Hospital; Associate Director of the Clinic for Pulmonary Disease of the Health Department, etc. New York, Moffat, Yard & Co.

This is one of the best of the numerous publications on tuberculosis of a semi-technical character.

While intended primarily for the purpose of educating the people individually as patients for their personal hygiene and collectively as communities interested in prophylaxis and control of the disease, it has also some excellent practical points for the physician.

The author takes up seriatim, with a chapter devoted to each, twelve of the most important phases to the community of the subject of tuberculosis.

He tells first what the patient should know of his disease, its method of propagation, dangers to others, etc.; he goes into symptoms only enough to encourage all cases to undergo early examination if there be the slightest cause for suspicion.

He next discusses the necessary hygiene for those in contact with the tuberculous for the best advantage of all concerned.

We would draw especial attention of the medical profession to the third chapter, in which is discussed the duty of the physician not only to his patient, but to the patient's family, the community and other communities as well. We have not space to go into details, but point particularly to the remarks on advising as to occupation, personal instruction of the patient, the choice of climate and the abuse of sending destitute patients on long journeys.

Further chapters include descriptions of sanatorium treatment at home, proper housing in our communities, the relations of the local, state and national authorities; the duties of employers, school teachers, clergy, charitable organizations and the people as a whole in combating the most serious of all diseases of modern times.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M. D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association; Member of the American Medical Association, etc. Sixth edition, thoroughly revised. Royal Octavo, 462 pages. Illustrated with twelve original full-page chromo-lithographic plates and fifteen full-page half-tone plates of photographs taken from nature and numerous engravings in the text. Bound in extra cloth. Price, \$4 net. F. A. Davis Company, publishers, 1914-16 Cherry St., Philadelphia.

This work is a conscientious, serious attempt to make of practical value the various uses of electricity in medical, surgical and particularly gynecological lines. The work is well supplied with illustrations and drawings and is very complete in its details.

The chapter which deals with the methods of applying electrical apparatus in surgical and gynecological cases is interesting and thorough. In the chapters on the treatment of tumors, particularly cancer, the author oversteps, at least slightly, the usual bounds which have been well established.

Part II of the book, on the "Rudiments of Medical Electricity," containing chapters on the physics, production and control of the constant current, static electricity, Roentgen rays in diagnosis and treatment, etc., is the most valuable portion of the book.

The great enthusiasm of the author may well excuse some overestimated values put upon means which have not as yet been demonstrated thoroughly enough to appeal to all.

THE THIRD REPORT OF THE WELCOME RESEARCH LABORATORIES AT THE GORDON MEMORIAL COLLEGE, KHARTOUM, Andrew Balfour, B. Sc., F. R. C. P., Edinburgh, D. P. H., Cambridge, Director. Published for the Department of Education, Sudan Government, Khartoum, by Bailliere, Tindall & Cox, London, 1908. Depot for United States, Toga Publishing Co., 45 Lafayette St., New York City.

This work is an extremely interesting one and contains a large amount of valuable data gathered by the members of the Wellcome Research Laboratories. It is their policy to gather scientific information along as many lines as possible in their expeditions, and therefore this report contains notes on their bacteriological findings, ethnologic observations on the natives, their habits as of interest from a medical viewpoint, their medical practices, sanitary efforts, etc.; also the various parasites for human beings and animals,

the various insects injurious to man and beast, chemical investigations of considerable ranges are also made, making a collection of facts that, when the series is completed, will add a great deal to our knowledge of tropical Africa.

PHYSIOLOGICAL AND MEDICAL OBSERVATIONS ALONG THE INDIANS OF SOUTHWEST UNITED STATES AND NORTHERN MEXICO. By Ales Herdlicka. Bulletin of American Ethnology, Smithsonian Institution.

A valuable collection of more detailed observations of the Indians of the Southwest, with especial reference to medical points of interest. The data are carefully selected, cover a wide range and add considerable new material, from which many interesting deductions may be made.

PROGRESSIVE MEDICINE. Vol. III, September, 1909. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 336 pages, with 37 engravings. Per annum, in four cloth bound volumes, \$9; in paper binding, \$6, carriage paid to any address. Lea & Febiger, publishers, Philadelphia and New York.

This number of *Progressive Medicine* presents four very interesting articles.

The first, by Ewart, discusses diseases of the thorax and its viscera, including the heart, lungs and blood vessels.

The summary of the advances in the treatment of tuberculosis is very comprehensive. Some very practical points are given on examination of the chest. The discussion of diseases of the heart is very interesting and presents all of the newer ideas and suggestions.

Diseases of blood vessels, arteriosclerosis, variations in blood pressure and methods for taking blood pressure are well presented.

Gottheil's chapter on dermatology is interesting and instructive. The subject is covered in a manner which is of interest to the general practitioner as well as the dermatologist. The sections on comparative dermatology, glanders, the use of adrenalin and the treatment of lupus erythematosus deserve special mention.

The article on obstetrics by Davis is a comprehensive review of the advance in that branch of medicine and presents much of practical value.

Dr. William G. Spiller contributes the final chapter of the volume, on the subject of nervous diseases. Many interesting cases of brain tumors are cited, and the many rare diseases of the brain and spinal cord are considered. The author makes his subject especially interesting by briefly describing cases in connection with many of the

diseases discussed. Throughout the article are found many points in diagnosis with which the general practitioner is not familiar, and this feature alone renders it of great practical value.

The volume condenses in a small space information which would require many hours of reading if obtained from journals and periodicals.

MINOR AND OPERATIVE SURGERY, INCLUDING BANDAGING. By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (seventh) edition, enlarged and thoroughly revised. 12mo, 674 pages, with 555 illustrations. Cloth, \$3.00, net. Lea & Febiger, Philadelphia and New York, 1909.

Since this work has gone through seven editions, there must be a demand for such a treatise, but the reviewer is at a loss to understand how it has maintained its popularity so long.

As it is unsuited for the surgeon or general practitioner, it is presumed that it is intended as a text-book for the third-year medical student. The preface tells us that much that is obsolete has been omitted, but there is still a very great deal present that has been eliminated from the better text-books.

The illustrations are for the most part poorly made and are not as clear as we are used to seeing in the later editions of works of this kind. The figures illustrating bandaging are not as useful as they should be, and would be more appreciated by the student if instead of the finished bandage the procedures were shown in the various steps.

The instruments depicted are of the antiquated type, with wooden or bone handles, used before the days of asepsis.

We trust that before the publishers bring forth another edition the author will have a chance to rewrite the major portion of the work and bring it up to date, both in reading matter and illustrations.

THE PRINCIPLES OF BACTERIOLOGY. A practical manual for students and physicians. By A. C. Abbott, M. M., Professor Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, \$2.75, net. Lea & Febiger, Philadelphia and New York, 1909.

The appearance of the eighth edition of this work testifies to its popularity. It is intended for the beginner in bacteriology and will appeal especially to students.

To those practitioners who desire to understand the constant references in current medical literature to the recent developments in protective vaccination, anti-sera, etc., a review of the prin-

ciples of bacteriology as given by this author will be of great assistance.

It is a good working manual, practical and systematic. It is very well illustrated and well mounted.

ERADICATING PLAGUE FROM SAN FRANCISCO. Report of the Citizens' Health Committee and an account of its work. With brief descriptions of the measure taken, copies of ordinances in aid of sanitation on the nature of plague and at the best means of getting rid of it, facsimiles of circular issued by the committee and a list of subscribers to the health fund. Prepared by Frank Morton Todd, Historian for the Committee.

This is a splendid matter of fact description of a wonderful work accomplished in San Francisco last year. It takes up in detail the epidemics of bubonic plague in San Francisco, the characteristic disease, the exciting cause, the bacillus pestis, the relation of the rat to the spread of disease, and then discusses the recent epidemic and in a most graphic way gives the wonderful systematic campaign of extermination which terminated in well merited success.

The book is a monument to those directing the work, and an enduring evidence of what the medical profession is able and prepared to do when called upon to defend the public health.

In Germany there are 99 public sanatoria for adult consumptives with 10,539 beds, besides 36 private sanatoria with 2,175 beds. In 18 sanatoria for children with tuberculosis there are 837 beds, a total of less than 13,000 beds. In the United States there are over 300 sanatoria with over 15,000 beds, showing that this country is in the lead in the Anti-Tuberculosis war. France has only 12 sanatoria for adult consumptives, with a total capacity of 148 beds. All of these institutions are private except the sanatorium at Agincourt.

The United State government operates three tuberculosis sanatoriums, one for soldiers and officers of the regular army at Fort Bayard, N. M.; one for seamen in the marchant marine, and others employed in coast service of the government, not in the navy, located at Fort Stanton, N. M.; and one for officers and enlisted men in the navy at Los Animas, Cal. The first hospital is conducted by the Department of War; the second by the United States Public Health and Marine Hospital Service, and the latter by the Navy Department.

On the basis of 150,000 deaths yearly from tuberculosis, in the United States the National Association for the Study and Prevention of Tuberculosis computes that there are 684,934 persons constantly sick with this disease. Allowing only \$500 as the average earnings of the workman who dies, the annual loss to the country from the ranks of labor alone, is over \$114,000,000 each year.

Prof. Karl Pearson's theory that the first-born children of a marriage are more likely to fall victims to consumption than the latter-born offspring has been freshly tested by Prof. Van der Velden of Frankfort, from material furnished by Prof. Riffeil, of Karlsruhe, who shows from an investigation of 2,500 families that in normal families the fourth, fifth and sixth children are more liable to die of tuberculosis, than are the first, second or third.

Dr. Bertillon, the eminent French vital statistician, has shown that tuberculosis is twice as prevalent among the retail liquor dealers of France as among other shopkeepers. He attributes it to the fact that the alcohol which they handle and use all day long weakens their bodies and thus renders them more susceptible to the disease germ.

Statistics published by the Imperial Gazette show that in recent years there has been a steady decrease in the number of deaths in Germany from tuberculosis, and especially from tuberculosis of the lungs. In Urban centers the death rate per 100,000 fell from 226.6 in 1903 to 192.15 in 1908.

Letters and mail-bags are frequent carriers of tuberculosis. According to testimony recently given before the Postal Commission of the British Empire, during the last twenty years, eighty per cent of the deaths among letter sorters had been due to consumption by the men after they had entered the service.

According to United States Consular reports, the tuberculosis death rate is twice as large in Syria and Turkey as it is in the United States. There is only one special hospital for this disease in the entire Ottoman Empire.

In the prisons of Bengal, India, tuberculosis kills about two persons in every one hundred.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

The Warren County Medical Society, organized in 1837 and incorporated in 1838, has been in continuous existence since those early days. It was called the Lebanon Medical Society until about ten years ago, but its membership included the profession of the whole county. This is believed to be the oldest medical society in the state that has met without interruption since its organization, and it is one of the few oldest west of the Alleghany mountains. Societies entitled to claims of priority are requested to publish them through THE OHIO STATE MEDICAL JOURNAL.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

The sixth annual meeting of the Second Councilor District will be held at Dayton October 26, beginning at 8:30 a. m., at each of the hospitals, where the medical and surgical clinics will be held.

The medical clinic will be in charge of Dr. Hoover, of Cleveland, and Dr. Crofton, of Chicago. The surgical will likely be in charge of Dr. Price, of Philadelphia, and Dr. Murphy, of Chicago. These clinics will continue until noon, when all will go to the State Hospital for luncheon and a short clinic on nervous diseases by Dr. Shepherd, afterwards meeting in their assembly hall to hear the papers. Dr. Crile and others will have papers. Closing this very profitable and pleasant day will come a banquet in the evening.

C. S. Bond, of Richmond, Ind., gave an illustrated lecture on disorders of the blood before the Montgomery County Medical Society Friday evening, October 1.

Robt. Carrothers read a paper on "Surgical Procedures in Cases of Varicose Veins and Ulcers" before the Green County Medical Society October 7

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

At the meeting of the Putnam County Medical Society of August 5, G. B. Booth, of Toledo, read a paper on "The Prevention of Blindness." The doctor said:

If the present conditions prevail during the next ten years as they have during the last half

century, 20,000 more helpless infants will be smitten by the grimy hand of disease on the very threshold of existence and wrapped in cimmerian darkness, compelled to grope their way through life bereft of most of its joys and sharer of most of its miseries, while fathers and mothers sit by in utter helplessness and in their ignorance either berate Divine Providence which inflicts such a penalty, or, knowing of its source, curse the disease which like a veritable nemesis has pursued and harassed them even unto the children of the second and third generations.

The bitter cry of these children in affliction has been raised to the heavens during the centuries past, and in this age of practical philanthropy we are beginning to hear. Their piteous wail awakens a responsive chord, and, made to realize their condition, we use our best efforts to cure and to prevent these calamities.

The loss of vision to an individual is as great as though the sun had never shone, the stars had never decked the sky and all the varied harmony of form and color had never been called into being. The blindness of a child is a financial loss to others as well as to himself. Sickness is always a radiating center of misery. This tragedy often closes the gates of happiness on more than one life. The cry of the blind has been the same for ages. The blind beggar at the gate, when asked what gift he would have, begged as the greatest boon, "Oh, that I might receive my sight!"

The careful physician in whose hands so frequently are the issues of life and death, may preserve the vision of at least 25 per cent. of those otherwise blind. Well has iridectomy and cataract removal been termed "the flower of surgery," for thus with one well directed thrust of knife has been loosed the fetters which for years have bound the captive in the prison gloom of impenetrable darkness. Though of less histrionic fame, they are worthy of even greater laurels who prevent the individual being made a captive. In other words, they are more praiseworthy whose forethought and fore-deed prevent disease than are those who sometimes succeed in overcoming it. In this field of endeavor more than in any other is the medical profession making for itself a permanent place in the hearts of the people and enrolling its members among the heroes of the world.

Indeed, there is no class of men who practice a broader philanthropy and who labor more

earnestly to lift the burden of human suffering than does the physician.

To those who are engaged in this service to mankind merely a word is sufficient, and it is my purpose in this paper to call attention to a few things which have been heretofore neglected by some, that I may, as it were, stir up your pure minds by way of remembrance.

According to the United States census of 1900, there are in the United States 64,763 blind; in the State of Ohio, 4466 blind. Of this number, 20,704 are under twenty years of age; in Ohio 1,226 are under twenty years of age. According to this report, 11 per cent. of the total number of blind were so at birth or became blind before the end of the first year.

This percentage is low in comparison with that reported by the various schools for the blind, the difference being due to this fact—that the census taker, being not particularly interested in the subject, obtained unreliable information. For example, in the New York State School for the Blind, thirty-nine out of 149 were blind from ophth. neon., and in the years 1902, 1903, 1904 and 1905 25 per cent. of each new class was blind from the same cause. The Ohio State School for the Blind has 350 pupils, ranging in age from five to twenty-one years. Sixty-four are blind from ophth. neon., and 25 per cent. of each new class are blind from the same cause. The Massachusetts School for the Blind shows 30 per cent. due to this cause; the Colorado School for the Blind 42 per cent., the Ontario School for the Blind 22 per cent. A general average of the reports from ten prominent schools in the United States and Ontario show 25.21 per cent. due to ophth. neon. The average for the Pennsylvania School for the Blind for the past eight years shows 33.36 per cent. due to this cause. At least 25 per cent. of the blindness is absolutely preventable, and ever more than this when we add to ophth. neon. those cases due to filth and squalor, and that trinity of evils—ignorance, poverty and vice.

John E. Weeks, of New York, says that one-half to $2\frac{1}{2}$ per cent. of children born have ophth. neon.; 80 per cent. of these are affected in both eyes. In a list of 400 cases treated, 15 to 18 per cent. suffered permanent impairment of vision.

The cause of ophth. neon., as you well know, is usually the gonococcus, though infection by streptococcus and mixed infections are by no means infrequent. This infection usually occurs during birth or from careless handling on the part of the nurse afterwards. The ophth. usually begins from three to five days after birth. Halsback and Niedams each report a case in which the ophth. was present at birth and was due to intra-uterine in-

fection. In these cases the membranes had been ruptured some time before labor, though in the latter case no opening was found. Unfavorable presentation, as of brow or face, which keeps the child long in contact with the part, usually favor infection. Premature births and those of low vitality are much more susceptible. There is more danger of ophth. in hospital practice than in private. Some cases will occur, no matter what treatment is instituted. With the prospective mother known to have gonorrhea, treatment should be instituted before labor to at least lessen the dangers. The child when born should have the eyes cleansed and treated with silver solution, and great care taken not to infect later. There has been much discussion as to what silver preparation is most efficacious. Cragin, of the Sloane Maternity Hospital, gives as a result of his extensive researches the following results:

1.000 Con. 2% Silver Nitrate,—18 cases Ophth. No eyes lost—no Opac.

1.000 Con. 1% Silver Nitrate,—34 cases Ophth. One eye lost—no Opac.

1.000 Con. 5% Protargol,—26 cases Ophth. One eye lost—one Opac.

1.000 Con. 20% Argyrol,—21 cases Ophth. No eyes lost—no Opac.

It was found that argyrol in 20 per cent. solution kills the gonococcus in thirty-nine seconds, but even in 30 per cent. strength has no effect on the staph. or strep.

Silver nitrate in 1 per cent. solution kills strep. pyogenes in thirty seconds, and in one-half per cent. solution will destroy the staph. pyog. aureus in thirty seconds.

As a preventive, 2 per cent. silver nitrate gives really the best results, but it sometimes produces severe irritation of the conjunctiva, with edema and occasionally a discharge requiring treatment. With 20 per cent. argyrol almost as good results are obtained, with no irritation of the eyes. In those infections due to the strep. and staph. argyrol is of much less value. A chemical examination of this substance shows it to be a silver protease.

No matter what substance be used, the method of use will largely determine its efficiency.

DeLee, of Chicago, has used 20 per cent. argyrol for three years, with no ophth., and suggests that the most important preventative to keep the eyes from being soiled by vaginal secretions and the wash of silver nitrate may not stay it. It is our custom, as soon as the child is born, to flush the eyes from the inner to the outer canthus with boric acid solution, then instil 2 per cent. silver nitrate and afterwards a few drops of boric solution. Argyrol solution is less irritating, but not

quite so reliable. One per cent. of silver nitrate should not be used, as it has given bad results.

In the treatment of oph. neon., in the active stage good results follow cleansing the eyes with boric solution every fifteen minutes; cold compresses, argyrol (30 per cent.) every two hours, with silver nitrate solution once or twice daily. The silver nitrate solution should not be used too frequently, as it often produces severe irritation of itself. Where it is at all possible to do so, the obstetrician should refer these cases to a competent oculist for treatment. There are many cases of childbirth attended only by midwives, and it is in these cases that oph. is most prevalent. There is a law in the Ohio statute book which requires that all such cases be reported immediately to the proper authorities, the enforcement of which would materially lessen the disease.

The midwife and often the nurse knows nothing of the gravity of an attack of ophthalmia or of the penalty for failing to report cases promptly to a physician; hence the need of a campaign of education among these classes. The Ohio Commission for the Blind, with the approval of the Advisory Committee of the State Medical Association, has issued a little folder for distribution containing just the advice necessary; also a copy of the Ohio law relative to these cases. I believe it the duty of every physician to aid in the distribution of these among nurses and midwives, that in the future cases of ophthalmia may be given the prompt attention they deserve. A very large percentage of blindness from ophthalmia comes from the smaller towns and the rural districts, not because the people are more afflicted with disease or the physicians less skillful, but because many neglect the use of preventive measures after childbirth and many cases of ophthalmia are not brought for treatment until the vision is already lost. Let me urge this upon every physician: Do not neglect to use 2 per cent. silver nitrate in the eyes of all babies you deliver, no matter whose they are or how well you know the parents. You will, of course, treat many unnecessarily, but, on the other hand, you will preserve the vision of some one who would otherwise spend their lives in darkness.

The following resolution was adopted by the Ottawa County Medical Society:

Resolved, That we deem the work of the Ohio Commission for the Blind a very important one, and hereby urge that this commission be continued and in the future provided more liberally

with funds, in order that, as far as possible, blindness may be prevented in our state.

The Williams County Medical Society held its fifth bi-monthly meeting for 1909 Thursday afternoon, September 16, at Montpelier. The program was as follows, beginning at 1 p. m.: Nose and throat clinic; "The Prevention and Treatment of Acute Infections and Chronic Catarrhal Conditions of the Nose and Throat," Thomas Hubbard, Toledo; discussion by Jas. W. Long, W. A. Held, F. H. Pugh. "Cerebral Apoplexy," J. U. Riggs, Bryan; discussion by M. V. Replogle, J. U. Schnetzler, F. E. Solier. "The Clinical Value of a Test Meal," G. W. Smeltz, Bryan; discussion by F. M. Stratton, H. W. Wertz, A. M. Wilber. Volunteer papers.

The Medical Section of the Academy of Medicine of Toledo and Lucas County met September 17. M. D. Eubank, of Huchow, China, was the guest of the society and addressed the society on "Ancient and Modern Medicine in the Chinese Empire." Dr. Eubank has for the past ten years been actively associated with medical work in China, having under his care a general hospital at Huchow.

Following the meeting a smoker was given at the Boody Hotel as a farewell reception to N. Worth Brown, who is leaving Toledo to engage in medical work in China. Toasts were responded to by Drs. Duncan, Hubbard, Snyder, Jackson and Smith.

SIXTH DISTRICT

A. J. MARCH, M. D., Collaborator.

The twenty-fifth session of the Ashland County Medical Society was called to order by the President, Dr. Wirt, in the Lutheran church, Tuesday at 1:30 p. m. Members present were Drs. Wirt, Dotterweich, Emery, Sherick, Cowan, L. B. Ash, Powell, Mohn, Reibel, Freidline and McClellan. Visitors present were Rev. A. H. Smith, Dr. May of Lattasburg, and Dr. Willard.

O. J. Powell read a paper on "Anesthesia," which was freely discussed by the members present.

W. M. McClellan gave the history of a case of "Uterine Inertia," a very unusual and interesting condition, which was also discussed freely. Other members on the program being absent, the society took up the discussion of "Typhoid Fever and Its Method of Treatment." At the afternoon session Rev. A. H. Smith was introduced in a few words

by the president and gave an address on "Religion and Medicine and the Emmanuel Movement."

Mr. Smith first discussed the close relationship of religion and medicine and the need for greater co-operation between the clergyman and the physician. He then referred to the wave of materialism which swept over the world in the last quarter of the nineteenth century, followed by a wave of reaction toward mysticism and psychic and spiritual phenomena, as shown by the current literature and conversation. As a result, numerous erratic fanaticisms and religious excrescences have appeared, as spiritualism, faith healing, Christian Science and Dowieism. And now comes the Emmanuel movement as another in the wake of the above.

The question arises whether it is only another erratic cult or a genuine and worthy fruit of co-operative religion and science. It is hard to tell as yet. It originated about three or four years ago in the Emmanuel Episcopal Church, Boston, whence its name, with its two rectors, Dr. Elwood Worcester and Dr. Samuel McComb, and "an associate physician of note, Dr. Isador Coriat." The fundamental principle of the movement, according to Dr. McComb, "is an alliance between medical science and the forces of religion with a view to the alleviation and cure of moral and physical suffering." (Hom. Rev., 1908-90.)

He quoted the Rev. G. H. Fullerton's description as asserting the reactionary tendencies from materialism, and claiming the movement to be concerned only with functional diseases arising in the nervous system, from which 75 per cent. of our illness arises; further, that while recognizing some of the elements of Christian Science, it did not contemplate a new sect, deny organic disease, nor discredit the medical profession. It used "animal magnetism and hypnotism at times. It sought to work in conjunction with the medical profession. He then continued:

There are several aspects of this movement which commend it to our favorable consideration. First, there is the fact just mentioned, the reasonableness and freedom from fanaticism of the leaders. They seem to be careful, thoughtful men. Second, the Emmanuel movement is opposed to the crude materialism of a generation ago, which led so many astray, and appeals to the spiritual instead. Third, it honors and magnifies the church, reverently exalts Christ and stands upon the central doctrines of the faith. It sincerely professes to be a scriptural movement within the church. Fourth, it affords an example of a practical, working gospel of love and mutual help, opening a wide field of service. Finally, it

frankly and properly makes use of the well known psychical principles of suggestion and auto-suggestion in therapeutic cases, at the same time welcoming and requiring the co-operation of the physician.

There may be danger of charlatanism and commercialism in such a movement as this, although they have not appeared as yet. There is, too, a moral danger in the close sympathetic touch of practitioner and patient in the secluded room, although there have been no complaints on this line. Hypnotism also may be a dangerous agency. One of the most serious dangers is the multiplication of unfit practitioners and quacks if the movement becomes a fad. Rev. Dr. George A. Gordon, of Boston, in severely criticising the Emmanuel movement, refers to this danger. He says, "The psychic treatment of disease is likely to become a craze. An auxiliary force strictly limited in availability and always requiring for its use a level head, is turned into a panacea in cases that call for a scientific physician. In pathology we enter the domain of a disordered or diseased physical organism. No man has the least moral right in this domain but one scientifically competent. I do not know a single member of my profession who could pass a first year's examination in any reputable medical school in the country."

Dr. Worcester himself recognizes the possible peril from a host of incapables, but makes the claim that "but a dozen clergymen or thereabouts in the whole country have publicly announced themselves willing to treat nervous disorders by psycho-therapy, and with scarce an exception these are picked men of scientific training and experience in dealing with men and women." (Interior.) He does not fear this danger.

Here it should be said that many of the best physicians and clergymen of the country do not favor this medico-clerical union and fear its consequences. In justice to the leaders of the movement, however, the following item, which has appeared in the public press, should be given:

"It is announced that Drs. Worcester and McComb, in order to counteract increasing criticism among the medical fraternity, asked four of the most eminent physicians of Boston—Drs. Joel E. Goldthwaite, Richard C. Cabot, James G. Mountford and Joseph H. Pratt—to advise with them as to any changes of method that might be necessary to establish their work in favor among medical men. The judgment of this advisory committee was that the essential reason of complaint lay in the fact that a considerable number of persons are treated at the Emmanuel Church whose cases have never been diagnosed by physicians, and the ministers are believed to have committed unfor-

fortunate errors through misunderstanding some ailments with which they dealt. Inasmuch as the founders of the movement had themselves insisted from the first that they would not venture on diagnosis or undertake treatments without medical approval, they were glad to co-operate with this advisory committee in formulating more stringent rules to prevent persons from applying at the church for the services of the ministers without having first seen a physician. Under these restrictions the advising medical men say that they fully approve the Emmanuel method and believe it will retain the approbation of their profession.

Another real danger is that this system may divert the church from her true functions. Dr. Gordon recognizes this and declares that "the practice of psycho-therapy in the church inverts the real values of religion." The Emmanuel movement appeals to the spiritual, but in effect it lays the stress and would lead the church to lay the stress upon man's physical and temporal well being. Under such conditions the church suffers. As Dr. Gordon says, "A hospital is one of the most benign of all the institutions created by man, but a hospital is not a church." The distinction is real. The church's mission is distinctively spiritual and moral, and her great duty is to preach the kingdom of God and the gospel of salvation and eternal life. Christ commanded, "Seek ye first the kingdom of God and His righteousness." Dr. Gordon's concluding advice is that the church and the hospital should continue as separate institutions, each working in its own sphere, but pastors and physicians each calling upon the service of the other in time of need.

In attempting to draw any conclusions as to the merit of the Emmanuel movement, I find it difficult to form a true and just judgment at a distance and without opportunity of coming directly into contact with the actual working of the system. However, I have consulted Dr. Worcester's book, "Religion and Medicine," as well as other writings of his, together with a number of important articles by Dr. McComb and other supporters of the movement. At the same time I have read a strong article by Dr. Fullerton and numerous discussions by others not identified with it, to whom I am indebted. In the light of these I must form my conclusions.

In passing judgment one must consider (1) the principles and purposes of the movement; (2) the actual working and the results; (3) the opinions of those best qualified to judge the merits of the case. As to the first, they attract our favor and commendation. The power of faith is a well-recognized factor in religion and medicine both. Prayer is a necessary feature surely in religion

and possibly from a scientific standpoint also. That the mind and will need to be educated to better and more rational control is acknowledged. As to mental suggestion, physicians have long used the principle in a quiet way. Just recently in a case among friends of mine a physician gave no medicine, but urged freedom from worry, a right attitude of mind and the reading of Prof. DuBois' volume on "The Psychic Treatment of Nervous Disorders," which is a text-book of the Emmanuel movement.

As to results, the movement, it must be admitted, seems to have demonstrated its beneficial character in bringing relief to many sufferers, although, as Dr. Lightner Witmer, head of the psychological department of the University of Pennsylvania, declares, there is lacking any accurate statement of facts in regard to the alleged cures reported in Dr. Worcester's book. Dr. Witmer has published an interesting and well balanced criticism of Dr. Worcester's system and volume. The scientific investigator does not find enough evidence to satisfy his scientific and judicial mind.

While influential men support the movement, there are many trained physicians, psychologists and clergymen who refuse their approval. In spite of the many favorable aspects of the Emmanuel movement and the undoubted good it does, it seems to us that Dr. Worcester's claims are extravagant in many respects, as when he declares that often a hypnotized person may display a "greater refinement of feeling, a higher sense of truth and honor," than when in his normal state, asserting, "in my opinion, the reason for this is that the subconscious mind, which I believe is the most active in suggestion, is purer and freer from evil than our waking consciousness."

Claims such as this are certainly extravagant, if not actually contrary to fact, and they tend to discredit his system. The system and the writings of the leaders contain considerable vague thinking, much speculation which most psychologists would not accept, and many obscure and indefinite terms and phrases. There are also statements as to Christ's methods of healing which most biblical scholars could not accept.

In view of these facts and the dangers already referred to, our own judgment is that it is better to withhold any hasty acceptance of the Emmanuel movement. At the same time we gladly recognize all the good in it, the value of its main principles, and the high plane upon which it starts. But the almost invariable tendency of so many of the recent and current cults and movements is to run to seed in fanatical extravagances, and this naturally makes one cautious and conservative.

Therefore, in spite of the favorable aspects of the movement, we believe that Dr. Witmer's conclusion of his criticism is just—"that the further development of the Emmanuel movement is likely to accomplish more harm than good." My conviction is that the field of psycho-therapeutics had better be left for development to the medical profession, as far as it touches the physical ills of men, and that it were better for the ministry to remain in their own field except as the need of psycho-therapeutic practice may occasionally touch the moral and the spiritual.

One good effect, however, we are confident the Emmanuel movement will conserve—namely, to direct attention to and promote the closer co-operation of religion and medicine, of the pastor and the physician, the desirability of which we have already referred to. Both meet in the sick-room with a common concern for the welfare of parishioner and patient. More systematic co-operation could not fail to be of good.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Monroe County Medical Society met Thursday, September 16. J. S. McClelland, of Bellaire, read a very interesting paper on "Hydrotherapy in the Treatment of Diseases."

EIGHTH DISTRICT

CHAS. H. HIGGINS, M. D., Collaborator.

The September meeting of the Muskingum County Medical Society was held at the Clarendon Hotel in Zanesville September 8. The meeting was in the form of an elaborate banquet given by the retiring president, H. R. Geyer. Toasts were responded to by D. M. Ross, R. D. Sykes, O. M. Wiseman, W. A. Melick, W. C. Waters, C. H. Higgins and H. T. Sutton. The election of officers resulted as follows: President, R. B. Bainter, Zanesville; vice-president, A. W. Squires, White Cottage; secretary, J. R. McDowell, Zanesville; treasurer, Anna M. Hill, Zanesville; censor, G. Wharburton, Zanesville; delegate to State Association, H. T. Sutton, Zanesville.

NINTH DISTRICT

S. P. FETTER, M. D., Collaborator.

The Hempstead Academy of Medicine met in regular monthly session in Portsmouth, Monday, September 13. The program was as follows: "Causes and Treatment of Post-Mortem Hemorrhage," F. H. Williams; discussion, A. R. Moore. "Indications for Caesarean Section," A. L. Test; discussion, Ralph Knowles. "Use of Ergot," C. B. Maddox; discussion, general.

B. W. Wendelkin was elected to membership in the Academy. The regular weekly meetings of the post-graduate work have been resumed.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

Columbus Academy of Medicine. Regular meeting September 6. Program: "The Mortality of Appendicitis in Childhood," Fred Fletcher. Dr. Fletcher said that the recognition of appendicitis in its suppurative stage was the important contributory cause of the high death rate in childhood. The limit of childhood was placed at fifteen years. Children under two years of age rarely ever have appendicitis. The youngest authentic case operated on was six weeks old.

We see three cases of appendicitis in boys to one in girls—a variation explained on the anatomic ground of a better blood supply through the appendiculo-ovarian ligament in the female. It had been Dr. Fletcher's experience to have the suppurative forms of the disease prove more fatal in girls than boys, and he offered the explanation that mothers would consent to have the boys operated upon earlier than the girls, consequently the girls reached the surgeon "pathologically" more neglected than the boys.

The difficulties in diagnosis (in the very young) were emphasized. In children there is a peculiar anatomic condition of the viscera—a nearness to each other of the organs in both the pelvis and abdomen. The entire ileo-cecal apparatus of a child is on a higher level than McBurney's point.

No examination of child is complete that does not investigate the thoracic viscera. The temperature curve is not reliable. The most important thing to do in going over a child suspected of having an acute intra-abdominal lesion is an examination of the rectum. In almost every case where the inflammation has invaded the peri-appendicular structures, a mass can be felt along the right rectal wall.

The belief was expressed that there should be no very great difficulty in differentiating an exaggerated attack of "stomach and intestinal" cramps from appendicitis—even in the very young, if the onset of the attack and character of the pain were considered, and a blood count made.

One of the most deceptive things in the physical examination of a child is to say with any degree of accuracy the size of the exudate, or the quantity of pus contained in a palpable tumor of the right iliac fossa. Another point emphasized was that more than ordinary care should be exercised in examining the abdomen of a child in order to avoid rupturing the delicate adhesions.

It is estimated that 50 per cent of the cases of appendicitis in children terminate in abscess formation or general peritonitis. The younger the child the more uncertain the prognosis. The mortality is high because the resisting powers of the child are easily paralyzed by the action of the toxins of pyogenic bacteria. Anatomically, the child has a poor chance of withstanding a suppurative process in the right iliac fossa, for as Ochsner has pointed out, the omentum is immaturely developed—it is ribbon-like, delicate and rarely reaches to the cecum. Nature has nothing with which to reinforce the cemented intestines; the walling off process is incomplete, and for this reason perforation is common and general peritonitis the usual sequence.

Practically all of the cases of general peritonitis, without operation, end in death. A child with an abscess formation is never safe. Many of the suppurative cases will recover if treated intelligently. He believes in the opening of the abscess through a straight incision over the most prominent part of the tumor, and in the removal of the appendix if it is accessible. An abscess so drained will clean up, and if the appendix is left a late operation, when the child is rid of the acute sepsis, is comparatively safe.

What about the cases of general peritonitis? Is it wise to operate on the neglected cases? It is his belief that we never see a case of appendicitis too late to offer some hope in operating. The operation means the rapid opening of the abdomen for the relief of the pus tension; the doing of the work with absolutely no intra abdominal trauma, and the introduction of a drain for the prevention of subsequent tension. A case so treated stands some show of getting well, providing the patient is placed upright in bed; stimulated; given proctoclysis and the Ochsner principles of feeding.

If we are to reduce what is an appalling mortality in the suppurative forms of appendicitis in children under fifteen years of age, it is necessary that the physician recognize these cases early, and send them to the surgeon while the pus is still confined to the appendix.

Dr. Fletcher reported nineteen cases of appendicitis in children under the age of fifteen years, the youngest child being a boy of fourteen months. There were seventeen boys and two girls. Ten of the cases operated on were clean (no pus) and all recovered. Of the nine pus cases, eight were operated on with two deaths. One boy, aged six years, was refused operation, and recovered after a stormy convalescence—the abscess rupturing into the bowel. He had general peritonitis.

The paper was discussed by G. M. Waters, E. J. Wilson, W. J. Means and J. F. Baldwin.

Dr. Hugh A. Baldwin presented the following specimens:

(1) Kidney, showing a partial thickening of the ureter with two separate and distinct pelves, and two renal arteries coming separately as such from the aorta. The same conditions existed in the other kidney as well.

(2) A pedunculated, spindle-celled primary sarcoma, almost completely filling the left auricle. The patient's symptoms were mainly pulmonary. Had had occasional sweats, but never any temperature. Marked dyspnea amounting even to orthopnea. Some swelling of the ankles. Rales of all descriptions could be heard in all parts of the left lung, though but little air seemed to enter except at the upper portion. Marked dullness, amounting in one spot to flatness over the left lower lobe. Conditions in the right lung were very similar, though no such flatness. Patient coughed a great deal, with bloody expectoration, but no tubercle bacilli.

Post mortem examination showed this tumor practically filling the left auricle. The right side of the heart was dilated, the walls of the ventricle being no thicker than cardboard. This tumor, which was pedunculated, took its origin from the margin of the vein returning from the left lung. It measured three inches in its greatest length, two and one-half inches thick, and eight and one-fourth inches in circumference.

Sarcoma of the heart is very rare, absolutely and relatively, and so much so that this case can be called, indeed, a curiosity. Coplin, in his last edition, has been able to find sarcoma of the heart in but forty cases. Osler has collected from all sources about one hundred cases of malignant tumor of the heart, but the greater part of these were carcinoma. In the cases collected by Osler, the majority of cases occurred as nodular masses or infiltrations in the septum or muscular wall.

J. F. Baldwin presented a number of pathological specimens:

(1) An unusually large and hard uric acid stone removed from the bladder of an old man, who had probably carried it for not less than ten or twelve years. It was removed in connection with a perineal prostatectomy. Patient rapidly convalescing.

(2) A very large and remarkably symmetrical phosphatic stone, in size and shape closely resembling an old fashioned bull's eye watch, which he had removed from a patient who had been carrying it for about two years. He had been

treated for over a year for stricture, requiring the daily use of a soft rubber catheter. There had evidently been no suspicion of the presence of a foreign body. This patient also convalescent.

(3) A small stone removed from the ureter of a patient who was profoundly septic at the time, and in whom multiple abscesses of the kidney were suspected. The stone had been located by the X-ray, though the patient was remarkably fat. There had been no complaint of pain in the other kidney (left) and no attempt had been made to radiograph that kidney. The removal of the ureteral calculus, which was about the size and shape of a small periwinkle, was accomplished with no special difficulty, though it had all to be done by the sense of touch, owing to the depth of the parts. The kidney had also been incised and drained. Pyelitis was present, but no multiple abscesses. No relief, however, was afforded, and the patient died a few days later of uremia. At the autopsy a remarkably large stone, very irregular in outline, was found in the opposite kidney, this having produced very extensive disorganization of that viscus. The specimen was of interest as showing how much disturbance could be produced by a small calculus on the one hand, and how little by a remarkably large and ugly one on the other.

(4) A calculus removed from the bladder of a female patient through a vaginal incision. This stone, which was about the size of the end of the thumb, had formed quite rapidly around a nucleus of tallow, the melted tallow having been injected into the bladder by the patient at the suggestion of a neighbor for the relief of a cystitis which had been annoying the patient for several years. As the cause of the cystitis was really due to pelvic conditions, after removing the calculus a section had been made and the pelvic conditions corrected, with prompt relief of the cystitis.

(5) A grain of corn, which had plugged the right bronchus, and had resulted in an attack of pneumonia. Although it was known that the corn was wedged tightly in the bronchus a tracheotomy had been made, hoping that the corn might become loosened and expelled. This hope was found to have been well founded, for two days later, during a paroxysm of coughing, the corn was expelled and at once escaped through the tracheotomy wound, after which the pneumonia rapidly subsided and a prompt convalescence resulted.

Some extended remarks were made as to the importance of giving the patient the benefit of an operation in cases of this kind, and without regard to the complication of an existing pneumonia.

Regular meeting of the Columbus Academy of Medicine, September 20. Program: "The Physical and Mechanical Treatment of Chronic Constipation," by Wells Teachnor.

The following is an abstract of Dr. Teachnor's paper: We cannot construct a definition of chronic constipation that is applicable to all cases. It is the custom of all persons in good health to have at least one movement of the bowels in twenty-four hours; this is considered normal, yet the relative condition between the times of evacuation varies greatly in health and disease. One patient may have two or three stools daily and still be the victim of constipation.

In the patients accustomed to taking purgatives there is more or less pain and tenesmus, followed by a sensation of incomplete evacuation; the patient is distressed and anxious, and fosters the belief that he is being constantly poisoned by retained feces. Through imagination this class of patients suffer from insomnia and impaired digestion; they become irritable and unfitted for both social engagements and business pursuits—and they aggravate their condition by the daily taking of purgatives. These are the true cases of constipation due to a functional neurosis. The temperament of the patient is a far greater etiological factor than the retention of feces in the intestinal canal. Another class of patients become constipated from dietetic errors or neglect to satisfy Nature, because of inconvenience or indifference. A few failures to perform this important function will cause no disturbance, but a continuation, augmented by the daily use of purgatives, soon exhausts the muscular layers of the colon from over-distention, and gives rise to the true form of atonic constipation.

Dr. Teachnor's experience in the treatment of this class of cases by valvotomy had imbued him with the idea that chronic constipation could be cured in a large percentage of cases without the use of drugs. However, it is important to commence the treatment of any case of constipation by the giving of an active cathartic. The first essential to successful treatment is that of a well appointed office—proctoscopes and sigmoidoscopes of different lengths; artificial light, and compressed air for distending the colon. It is necessary to have the patient cooperate in any line of treatment that may be instituted, whether it consists in hydrotherapy, electricity or exercises and bodily movements. The neurotic cases do well on psychotherapy, after the withdrawal of drugs and the correction of any existing proctitis.

The most powerful influence in determining the act of defecation is that of habit. The function of the intestines operates in cycles—a period of

activity followed by one of rest. And the treatment of these cases often means a complete change in the patient's manner of living. One should establish and maintain a regular system of training for these subjects. Purgatives should be avoided; the diet and method of eating outlined, and an hour designated for attention to physiological activities. The movements of the body during toilet and acts of dressing all aid in stimulating peristalsis. One or two glasses of water, either hot or cold, can be recommended on rising. Walking is the best form of exercise.

No one line of procedure will succeed in curing all cases of constipation. To secure results any therapeutic agent must be supplemented with exercise, regulation of diet and mechanical dilatation of the colon. The object of any diet is to stimulate peristalsis and increase intestinal secretions. This can best be done by a diet that leaves an abundant residue. A close adherence to diet will often result in a complete cure of many cases of constipation in which there is a loss of sensibility and muscular activity of the colon and rectum. The most perfect diet is one that has an excessive amount of leguminous vegetables. It leaves a large residue to be disposed of by the bowel. I do not think that the quantity nor the time of taking of food has anything to do with the movements of the bowels.

Under mechanical measures, the rhythmic dilatation of the colon by simple inflation with air, a method devised by the author, probably comes nearer imitating, without inconvenience, the natural physiologic stimulation than any other form of treatment. The patient is placed in the knee-chest posture and a long pneumatic proctoscope or sigmoidoscope is placed in the rectum. When the obturator is withdrawn the air rushes in and distends the bowel sufficiently for examination. With the instrument in position he attaches the cut-off of a compressed air tank. The force of air must be under control at all times so that it will distend the bowel gradually, with a pressure not greater than one or two pounds. This is continued until the gut is filled to toleration, which is recognized by cramp-like pains in the region of the stomach. The cut-off is removed and the air permitted to escape through the instrument until the patient no longer feels distress. This process of inflation and collapsing is repeated from three to five times at one sitting, and the bowel is left distended to a degree that will insure comfort. The treatment is repeated daily for one week, and at periods of two or three days for two more weeks. Usually by the end of the third week the patient will be having regular bowel movements.

The paper was discussed by Drs. Rector, Van Fossen and Deuschle.

The following cases were reported by Hugh J. Means:

Case I—Male, aged fourteen. Occupation, golf caddy. Was shot in the abdomen May 18, by a playmate with a 32-calibre revolver. He was brought without delay to the Protestant Hospital, where an examination showed wound of entrance in the median line, just below the umbilicus. There was no shock or evidence of internal hemorrhage, and no pain. Under ether anesthesia, the abdomen was opened by median incision. The wound was found to have penetrated the abdominal cavity, the bullet being found in the right lumbar fossa. There was some blood in the cavity, indicating injury to the viscera. Beginning with the cecal end of the ileum, the entire gut was examined, and one perforation found in the upper portion of the jejunum. Some fecal material had escaped, which was cleaned out, the opening in the gut sutured, and the abdomen closed without drainage. He made an uneventful recovery and was discharged at the end of a week.

Case II—Female, aged twenty-five. Was shot twice with a 32-calibre revolver June 23, 1909. She arrived at the Protestant Hospital within three quarters of an hour of the shooting. Examination disclosed a wound obliquely through the left biceps muscle, and a corresponding wound of left chest at eighth rib in midaxillary line. There was very little hemorrhage and no evidence of the chest viscera having been injured. Another wound was found low down on the left side of the body near crest of ileum. It was impossible to determine direction of the bullet. The patient was in good condition, entirely conscious, no pain and a total absence of shock. Owing to these factors, and the undetermined course of the bullet, it was decided to await symptoms of visceral complications. The following morning a radiograph was made by Dr. Bowen which showed the ball from the lower wound about the middle of the abdomen and at the right of the median line. An operation was then determined upon. A median incision was made and on inserting the hand the bullet was found free in the right lumbar fossa. There was a considerable amount of blood in the abdominal cavity. The gut was examined, beginning with the cecal end of the ileum. Three perforations were found in the upper portion of the jejunum, and a ragged wound through the jejunal mesentery. There was considerable leakage of intestinal contents. The debris was wiped out, the openings sutured, and the abdomen closed without drainage. Temperature and pulse rose steadily after reaction, and at the end of the first

forty-eight hours the temperature was 102.2 and the pulse 150. The patient had been placed in the sitting posture and a seeping enema of normal salt solution was used. The temperature remained high for three days. The pulse, however, improved in volume and became less frequent. At the end of the sixth day decided improvement took place, and on the tenth day pulse became normal and continued so throughout convalescence. She was discharged July 7, fifteen days after operation.

July 27 she again came to the hospital and had the bullet removed that had lodged in the chest. It was located along the lower border of the eighth rib and it was easily removed.

Case III—Male, aged sixteen, laborer. Admitted to the Protestant Hospital July 5 with a bullet wound in his chest from a 32-calibre revolver. The wound of entrance was in the seventh intercostal space in nipple line. The shooting had taken place about one hour before the patient was brought to the hospital. He was in mild shock. On examination a prominence was seen and felt over tenth rib, one and one-half inches from spine, right side. Patient was anesthetized, incision was made over the prominence and bullet found under skin and fascia. A large quantity of blood escaped. The wound was enlarged and explored. The kidney was found lacerated. The wound was then tightly packed. A second incision was made on left side through the rectus muscle and costal arch. The epigastrium was full of fresh blood. The left lobe of the liver was lacerated, the stomach perforated in two places, and the head of the pancreas torn. The stomach perforations were sutured and the bleeding wound of the pancreas ligated. The patient rallied and lived until the next day. An intravenous saline was given on the operating table. Before he died blood was found in the urine. Autopsy confirmed the findings at time of operation, and further revealed that the kidney had been torn assunder through the pelvis.

Case IV—Male, aged twenty-seven, laborer. Was cut with a razor in the hands of a man with whom he was having an altercation at Rarig. Dr. Kidd was called and found an incised wound extending across the body, beginning about two inches below left nipple and extending obliquely down and to the right, and to a point near the spine. The opening in the abdomen was fully six inches in length. The intestines were protruding and could not be replaced. They were gathered up in an undershirt and a couple of towels and patient was shipped to the hospital. On examination it was found that the patient was completely disemboweled, all the intestines protruding

through the wound. There was a cut in the stomach about one and one-half inches long. The patient was practically free from shock, and was not suffering much pain. From the time of the accident until he was brought to the hospital was probably one and one-half hours. The cut in the stomach was sutured, and after a great deal of difficulty the intestines were placed in the abdomen. The peritoneum was closed and a drain placed in the external wound. The patient progressed fairly well, without peritoneal complications. The external wound was infected and supuration followed. He was discharged from the hospital August 28, four weeks from date of entrance.

SUMMARY.

1. All these cases were practically free from shock when they were brought to the hospital.

Case I illustrates the value of immediate operation.

Case II demonstrates the uncertainty of waiting for the development of visceral complications. In this case an X-ray should have been used earlier to locate the direction of the bullet in the lower wound. While the patient recovered, yet her chances were not as good as though an operation had been made earlier.

Case III presents some interesting points. (1) The extensive destruction of vital organs; the liver, stomach, pancreas and kidney. (2) The comparative absence of shock in the presence of such lacerations. (3) The prolongation of life under such conditions.

Case IV demonstrates the resistance of the peritoneum against infection. All of the small intestines, the transverse colon and stomach protruded through the opening and were exposed to an undershirt that had been worn for forty-eight hours, and other clothing that was none too clean.

These four cases present a mortality of twenty-five per cent.

NEWS NOTES

Auglaize, Mercer and Van Wert counties contemplate the building of a \$50,000 tuberculosis sanatorium and have purchased a site in McBeath Park, Lima.

Paul G. Wooley, professor of pathology in the University of Nebraska, has accepted the position of professor of pathology in the Ohio Miami Medical College, of Cincinnati.

At a recent meeting of the Columbus Library Club the following officers were elected: D. N.

Kinsman, President; Charles J. Shepard, Vice President; Fred Fletcher, Secretary; J. F. Baldwin, J. H. J. Upham, F. W. Blake and W. J. Means, Trustees.

Cassius M. Shepard, of Columbus, wishes to announce to the profession that his practice is limited to orthopedic surgery. His office will be removed to 347 East State street, opposite Carnegie Library.

Joseph Placak, for several years medical director of the Tuberculosis Sanatorium of the Department of Charities of the city of Cleveland, has resigned, to take effect October 1.

The regular meeting of the General Practitioners' Medical Society was held in the Medical Section of the Columbus Public Library Thursday evening, September 9. The program was as follows: Case reports, by the members; "Drugless Healing and the Medical Profession," J. W. Clemmer; discussion opened by D. J. Snyder and F. O. Williams.

The Executive Committee reports that they have decided to follow the post-graduate course as outlined in the American Medical Association Journal for the coming year. Also that they will have a meeting every Monday night. The first meeting to be held the first Monday in October.

D. K. Gotwald has returned from a year spent in Europe doing post-graduate work. Dr. J. A. Link will return in the early future from Europe where he also spent the last year in doing special work in surgery.

G. F. Brubaker, who has been doing post-graduate work in Baltimore, has returned and will make his home in Cincinnati after the first of October, doing special work in genito-urinary diseases. He spent the summer in touring European countries.

E. C. Harris of this city has been on the sick list for some time as well as Dr. W. C. Taylor, who is still at the City Hospital recovering from an operation that was required to save his life. Dr. Taylor is making a good recovery.

SAMPLERS ARE FINED.

William O'Neil, Verne Stout and Ossie Ban, charged with the illegal distribution of drugs, for throwing samples of medicine, were each fined \$50 and costs in the Columbus police court. These cases were tried when Attorney Carl Bates was acting police judge several weeks ago and they were up recently on a motion for a new trial. Acting Judge Bates took the police bench long enough to dispose of them by overruling the motions for new trials and motions for arrest of judgment and then assessed the fines. A stay of execution was granted and the cases will probably be appealed.

The Queen Alexandra Sanatorium, under Her Majesty's patronage, which is to be opened early next autumn, is destined to rank high in the list of the national sanatoria of cosmopolitan Davos. But, though national, it will be unique in welcoming patients from all parts of the world, and not only from the empire, but from the States, as it was founded for the benefit of all English speaking nationalities, the only qualifications needed being evidence of medical suitability and of inability to meet the heavier cost of treatment at hotels or private institutions. The following notice, which appeared in the British Medical and other journals, has been forwarded to us by the joint honorary secretary, Dr. William Ewart, as of special interest to the American public and profession:

THE QUEEN-ALEXANDRA SANATORIUM, DAVOS.

The prospective opening of the Queen Alexandra Sanatorium at Davos for the reception of patients early in this autumn was announced from the chair at the sixth annual meeting of the council, held at 11 Chandos street, Cavendish square, W., on July 16, by the president, the Lord Balfour of Burleigh, K. T., P. C., who has labored so long and successfully in the difficult task of raising funds. A splendid donation of £25,000 lately received from a munificent sympathizer, who desires that his name shall not be published, not only supplies the amount required to complete the work and to open the sanatorium free from debt, but provides means for its scientific equipment and for future extensions. It should be mentioned that Lord Strathcona, with his well known zeal in the promotion of all charitable and useful works, not long ago gave a donation of £2000 for the purposes of the sanatorium. For the present the sanatorium will accommodate fifty-four patients, all in single rooms. But the public rooms are designed for a full complement of 120

patients. The Davos Invalids' Home, the original foundation of the late Mrs. Lord, which for so many years was the only representative of our national charity in Davos, has now ended its task and fulfilled the purpose for which it was initiated—that of developing into a national sanatorium. The home had been granted Her Gracious Majesty's patronage as far back as 1899.

DEATHS

J. T. Martain, Cincinnati College of Medicine and Surgery, 1871, died at Sandusky, August 16, from paralysis, aged 65.

J. M. Burns, University of Wooster, 1874, died at his home in Cleveland, August 19, from heart disease, aged 58.

Eleanor Handmacher, Cleveland Homeopathic Medical College, 1909, died in Cleveland, August 25, aged 23.

J. Walker Neil, Starling Medical College, 1859, died at his home in Delaware, August 4, aged 74.

William Smith, Cleveland Medical College, 1848, died at his home in Van Wert, August 8, from heat exhaustion, aged 87.

L. J. Eger, Starling Medical College, 1893, died at his home in Delphos, August 4, from meningitis, aged 41.

W. R. Hall, Homeopathic Hospital College, 1887, died at his home in Willoughby, August 7, from apoplexy, aged 68.

H. M. Hamilton, Medical College of Ohio, 1889, died suddenly at his home in Columbus, September 2, from organic heart disease, aged 41.

W. Scott, Medical College of Ohio, 1876, of Senecaville, died suddenly September 5, while visiting a patient, aged 69.

O. H. Evans died at his former home at Jackson, Ohio, after a long illness. Dr. Evans was a graduate of Starling Medical of the year 1898.

Resolutions adopted by the Columbus Academy of Medicine September 6 on the death of Erskine B. Fullerton:

WHEREAS, It was with the sincerest sorrow and regret that the medical profession of Columbus, in common with all good citizens of our city, learned of the sudden death of Dr. Erskine B. Fullerton, on July 31, at Portland, Ore; and,

WHEREAS, Dr. Fullerton, during his long and active career in this city as a medical teacher and practitioner of medicine, together with his high character as a man and a citizen; his fine literary attainments; his gentle, considerate and cultured manners, as well as his ever ready helpfulness of those in need of aid, had won for himself a very high place in the affections and respect of his medical confreres; therefore, be it

Resolved, That the Columbus Academy of Medicine feels keenly and deeply deplores the unexpected decease of Dr. Erskine B. Fullerton, who was one of the oldest and most valued members, feeling that in his death the profession which he so eminently adorned has met with grievous loss and the community deprived of a good citizen, whose work and example has always been for the uplifting and betterment of humanity. Be it further

Resolved, That as a token of our respect these resolutions be spread upon the minutes of the Academy, a copy furnished the medical and lay press for publication, and another copy to the family of our deceased colleague, with the expression of our deepest sympathy and condolence in this their hour of great bereavement.

FRANK WARNER, ...
C. O. PROBST,
C. F. GILLIAM,
Committee.

The death rate from tuberculosis among the Chinese residents of the United States is 658.5, and among the Japanese 239 per 100,000 living, while among the white population of the country the rate is 173.

According to tests made recently on 728 children from the tenement house section of New York City, 28 per cent showed signs of tuberculosis either of the joints, glands or lungs.

Tuberculosis among the insane is very prevalent. The lowest estimates show that 5 per cent of all the inmates of hospitals for the insane in the United States have tuberculosis, while in some cases the rate is over 20 per cent.

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ORIGINAL ARTICLES

MYATONIA CONGENITA OF OPPENHEIM, WITH REPORT OF A CASE.

WALTER B. LAFFER, M. D.,
Cleveland, O.

[Read before the Ohio State Medical Association.]

This disease was first described in 1900 by Oppenheim.

It is not to be confounded with congenital myotonia or Thomsen's Disease.

Various names have been given to this syndrome, such as myatonia congenita (Oppenheim), kongenitale muskelatonie (Tobler), maladie d'Oppenheim (Baudouin), atonische Zustände der Kindlichen Muskelatur (Bing), congenital hypotonia or amyoplasia (Carey Combes), myopathy, infantile type (Batten), and amyotonia congenita (Collier and Wilson).

Collier and Wilson very thoroughly reviewed the literature last year and were able to find but twenty-five cases.

The case I am about to report is the third one reported from America, as Spiller's case and Orbison's case are the only others in our literature.

The characteristic symptoms of Oppenheim's Disease are as follows:

The trouble is almost always congenital, but may first be noticed as late as the end of the first year of life.

The muscles are soft and flaccid, with great hypotonicity so as to give rise to a pseudo-paralysis, usually most marked in the legs.

There is no local muscular wasting. The face is rarely affected. The deep reflexes are generally absent, but may be barely obtainable.

A few cases have seemed to follow attacks of bronchitis, broncho-pneumonia and diarrhoea. In three other post-natal cases (Collier and Wilson, Rosenberg, Schüller) the onset was slow and, as in my case, was not preceded by any sign of general ill health.

Heredity seems to play no factor when one

excludes the few cases of the Sargent's familiar type, which are different in some essential features.

The pregnancies seem to have been natural except in a few instances where (Rosenberg, Cattaneo) fetal movements were absent, or much less than in other gestations. In one case the mother is said to have been weakly during her pregnancy, in another case the mother was exposed to the strain, privation and hurried journeys necessitated by the South African war.

Miscarriages have not been frequent with the mothers, and signs of congenital syphilis or of rickets have not been met with in a single instance.

The muscular distribution of the trouble is always symmetrical on the two sides and never quite universal, as the muscles of mastication and deglutition seem always to have escaped.

The legs are most often and most extensively involved. The arms next, and the trunk, neck and face less involved in the order named. Even with extensive involvement the different parts of the body are not affected to the same extent.

The distribution of the affection is not according to the long axis of the body; i. e., face least and legs most, for in one case in which the face, arms and legs were severely affected the trunk was not involved, and in my case the face, legs and deltoids are much affected, while the fore-arms and back have practically escaped.

In every case the legs have been involved, but with several patients the arms have been much more severely affected than the lower extremities.

Collier and Wilson found in the twenty-five cases reported that the bodily distribution was as follows:

	Involved	Normal	Not Noted
Face	3	20	2
Trunk	22	3	..
Upper extremities	20	5	..
Lower extremities.....	25

In the face, the orbicularis palpebrarum and the retractor muscles of the angle of the mouth

are the muscles chiefly involved, with a resulting inability to close the eyes completely, epiphora and a blank facial expression.

The orbicularis oris, tongue and muscles of mastication seem never to be affected, and all affected infants have been able to suck strongly and swallow well.

The pointing lips and furrows indicating local muscular wasting characteristic of the myopathic face are never seen. The external eye muscles were affected in but one case.

Muscles with such important functions to perform as sucking, mastication, swallowing and respiration usually escape in myatonia. However, the frequency of bronchial troubles in this condition may be due to a weakness of the respiratory muscles, especially the diaphragm, which has been occasionally noted. The loss of muscular power varies from slight weakness to an inability to overcome gravity, but usually the loss of power is great. Only two or three patients in recorded cases are able to stand and walk feebly, and but few to sit up.

Collier and Wilson show there is a surprising volitional control, and if not too much power is required for the act or to overcome gravity, the most complicated movements can be performed quickly and with a fair degree of precision.

The proximal and the distal muscles are about equally affected, while the disadvantage at which the former act against gravity upon the limbs when attached to the short end of the levers, causes them often to seem to be most affected. Emphasis must be laid on the fact that there is no local muscular atrophy, small muscles or wasted parts of muscles comparable to the local atrophy and wasting seen in the myopathies. Therefore, the contour of the limbs are not altered as in the myopathies with their localized atrophies and hypertrophies. Fibrillation has not been seen and the effect of local mechanical stimulation is not conspicuous.

The affected muscles are often completely toneless and voluntary power may be insufficient to overcome the force of gravity of the limbs, and thus pseudo-paralysis is often mistaken for a complete paralysis.

This flaccidity is well described by the statement made by one mother about her child "By whatever part of the body I held him up, all the rest of him hung down like so many pieces of yarn."

There are occasionally spontaneous and often reflex movements. Hyperextension or over-extension of the joints is very remarkable and highly characteristic. There is a flail-like condition of the joints when shaken. The ankle joints

may, in some cases, be hyper-extended until toes rest on tibia.

Contractures have been present in eight of the recorded cases and in all instances the flexures of hip, knee or calf muscles were the ones affected.

Bing's case showed great fatigueability of the muscles of upper extremities and back, and he wonders if myasthenia is an attenuated degree of myatonia.

The muscles are small and feel soft and of a velvety character, with none of the indurated spots felt in the myopathies.

Collier and Wilson say it is difficult to distinguish between the skin, the subcutaneous tissue and the underlying muscles; only a homogeneous feel extending from the skin down to the bone. Edema has been noted in five or six cases.

Fat deposits at unusual places, chiefly on under parts of the body are seen, and fat seems slightly abnormal.

The facial muscles were affected in but three of the recorded cases. In one case the face showed a blank and stupid expression, such as seen in my case, and here, too, there was no movement of the retractor or elevators of the angle of the mouth, even when patient cried.

In this case, as in mine, though this facial affection had been present since birth and had apparently not improved, yet there were none of the signs of wasting of the facial musculature that characterize the myopathic face. The neck and trunk muscles have often been affected so child could not hold up head.

The electrical reaction which may be normal in the light cases is usually very characteristic, and a tardy response to faradism with a more or less normal galvanic reaction is so infrequent in other diseases in childhood as almost to deserve the name "myatonic reaction." This peculiar reaction is usually seen in all the muscles, but is most marked in the muscles most affected.

These patients are strangely undisturbed by an induced current that would be unbearable to others.

In some instances there has been no response to a strong faradic current. Moggia's case showed normal reaction to both currents. There is no tendency to a myasthenic reaction as the quality of contraction is not changed. The direct reaction of muscles was impaired in Bing's case.

The intelligence, except in one case, has always been normal and the organs of special sense have rarely been affected, as but one case showed a squint and another case a squint with some symptoms suggesting amaurotic family idiocy.

The sensory and vasomotor functions have been normal in all cases. In no case have the sphincters been affected.

The superficial reflexes have always been normal, while the deep reflexes are almost always lost in regions where the myatonia is marked.

The knee jerks were absent in twenty-two of the twenty-six recorded cases. In Collier and Wilson's one case the knee jerks appeared after a five years' absence while under constant observation, and when the patient had so far improved as to begin to walk. In Berti's case the knee jerk was present in a patient who had been steadily improving for five years.

Bing says that while giving a case electrical treatment the knee jerk may return during the sitting, and the patient be able to move a muscle for a time, and later these acquisitions will be permanent.

The wrist and elbow jerks were present in four cases and absent in fifteen cases and not recorded in seven cases. In two cases these reflexes returned after being absent. Co-ordination is not disturbed.

Sitting, when possible, often shows a high degree of functional kyphosis.

The general health, growth, development and vitality of the patient with congenital myatonia seems to be good.

The course of the disease is toward recovery, so far as one can judge in the nine years the first cases have been under observation.

No tendency to exacerbation has been observed, but the recovery is slow; and it is too soon to state whether it is complete. The prognosis, therefore, seems not to be bad aside from the tendency to die of pneumonia and bronchitis, from which diseases nearly all deaths have occurred.

The disease is the antipode of Little's Disease and the diagnosis is based on the following facts:

It may be separated from polyneuritis, which is rare in infancy, by its being usually congenital; by the proximal muscles being most affected; by the absence of atrophy and the reaction of degeneration; by a pseudo and not a true paralysis; by its slow and not quick amelioration.

An injury of the spinal cord in the cervical region occurring at birth may simulate it, but the history, the distribution, the sensory loss and the involvement of the sphincters would differentiate.

The infantile acute spinal muscular atrophy of the familial type, such as Sorgente and Batten have described, closely resemble myatonia, but they present atrophy, loss of faradic excitability, sensory loss, and live but a short time.

Poliomyelitis is rarely so extensive or so symmetrical, and is an acute and not a congenital trouble, with atrophy and a true paralysis of certain muscles or a group of muscles which show the reaction of degeneration and do not show the characteristic hypotonia.

Vierordt (15) has recently, under the name of inhibitory paralysis in the young, classified the pseudo-paralysis syphilitica of Parrot and the motor troubles seen with Barlow's disease and rachitis. He believes that in these cases we have a functional trouble caused by an reflex inhibition acting on the anterior horn motor cells made manifest by a muscular hypotonicity.

Oppenheim differentiates his myatonia by its being congenital, while in Vierordt's cases the trouble was acquired, acute and with a well defined aetiological cause.

Hagenbach-Burckhardt (16) and Bing (10) have described what they believe to be a true rachitic myopathy seen in young rachitics. Here, too, we may separate it from Oppenheim's myatonia, for almost all authors believe that rachitis is always acquired and following an unsuitable diet. Marfan (17) has, however, reported some very conclusive reports of congenital rachitis, and in an oral communication to Baudouin (14), Marfan believes the view of rachitis should be enlarged and that the body changes should be considered only a symptom and more consideration given to the hematogenous, lymphatic and neuro-muscular symptoms. Rosenberg's case is the only one where myatonia attacked a rachitic child.

Kassowitz (23) believes there is a relaxation of the ligamentous parts of the joints that cause the atony in rickets, etc.

Bing has shown by a biopsic examination of muscle tissue from rickety patients that there is a histological alteration in the muscles in cases showing paralysis or hypotonia. Further study shows this change not to be a secondary atrophy due to inactivity. Rachitic cases show a reduction to electrical irritability, but no true reaction of degeneration.

Tendon reflexes were never lost in rickets and often increased. Severe rachitic hypotonic myopathy occurs with the rachitic spasmophilia associated sometimes with the phenomenon of Trousseau and Chvostek.

Hagenbach's symptom is the ability to cross the feet on the back of the neck. It is present in hypotonia due to myxedema (disappears under thyroid extract) and those cases with the psychic and somatic picture of mongolism. It is present in my case of myatonia.

Van Gehuchten believes that the center for

tonus and the center for the reflexes are not the same.

Bing has shown on dogs that the cerebellar tract (tractus-spino-cerebellares) is necessarily the path of the muscle tone. This tract is myelinated at the seventh month of extrauterine life while the pyramidal is still unmyelinated. He raises the point whether in congenital myatonia the spinocerebellar tract is not undeveloped, instead of the muscles as Oppenheim and Spiller believe. Zengerle (25) has shown that there is such a failure of development of this tract at times, but he has not examined cases of myatonia.

Gordon Holmes calls attention to the fact that "till birth at least the development of the muscles is independent of the nervous system, as has been demonstrated by the presence of normal muscles in cases of amyelia", and points to Baudouin's findings in his case of myatonia congenita, which, from the pathological point of view, can be regarded as a primary muscular dystrophy, exceptional only in the fact that the disease commenced during intrauterine life. Gordon Holmes does not deny the existence of Oppenheim's disease, but thinks there seems to be a danger of including cases of a different nature under this title. The most important and definite distinction between myatonia congenita and the muscular dystrophies is not the myatonia which is common in both, but that in Oppenheim's disease the symptoms are not progressive, but the cases tend to recover. With the myopathies there is a tendency to the formation of fibrous tissue in the muscles with the development of contractures which has not been seen with myatonia congenita.

Gordon Holmes says in Thomsen's disease the essential pathological condition is the enlargement of the muscle fibres with central nuclei; on the other hand, it is well known that the only muscle change which histologically separates primary myopathy from the amyotrophies due to peripheral neuron lesions is the presence of similar large or hypertrophied fibres.

It is difficult to differentiate the myopathies from the myelopathies. Some French neurologists have endeavored to bring these cases of myopathy and myatonia together. Holmes examined two cases of myopathy of different types. In the first, the pseudo-hypertrophic type, it was remarkable that there was no visible wasting of the ventral roots and very little diminution in the size of the cells of the anterior horns, but in another typical case of myopathy, which died at sixteen years of age, there was marked degener-

ation of the anterior roots, visible even to the naked eye.

The main diagnostic difficulty is to separate myatonia from the myopathies. Batten and Head think that myatonia is due to a type of myopathy, while, on the other hand, Collier and Wilson, who have given the subject probably the most study, do not see much clinical resemblance between myatonia and myopathy, except that in the two conditions one has to deal with weak muscles and contractures. They say that in myopathy there is local muscular wasting and local muscular weakness, but not in myatonia.

Myatonia is not hereditary, and nearly always congenital. They admit so far as the pathological evidence goes, derived from the two cases which have been examined, that it is quite compatible with a condition of myopathy, though the two autopsy reports are widely at variance.

Collier and Wilson base their differentiation on the following facts:

(1) The myopathies are conspicuously familial diseases, whereas no familial tendency has been recorded in amyotonia.

(2) The several types of myopathies often show familial relationship one with another, whereas no case of amyotonia has been reported in a myopathic family.

(3) A large majority of the cases of amyotonia are congenital, the condition being obvious at birth; in a minority of the cases the amyotonia has appeared acutely and has reached its most severe degree in a few days. In none of its several types is myopathy apparent at birth, nor does it ever appear acutely and reach a maximum in a few days.

(4) The characteristic muscular flaccidity of amyotonia is not present in myopathy.

(5) The local muscular wasting that is a marked feature of myopathy is not present in amyotonia.

(6) The course of myopathy is one of progressive increase of muscular weakness, that of amyotonia is one of progressive amelioration of the symptoms.

(7) Return of the deep reflexes after their persistent absence for months or years has been recorded several times in amyotonia, and has occurred in two of their cases under their observation. Such a return of an absent deep reflex has never been recorded in myopathy.

They believe that myatonia is a new and distinct clinical type, but its position in relation to the myopathies can only be determined by a study of more cases and autopsies.

The treatment consists in carefully looking

after the nutrition, protection from infections, especially of the respiratory tract.

There should be a steady and prolonged use of the faradic and galvanic electricity, massage, passive movements and graded exercises. Strychnine should be continued over long period. Surgical measures to relieve contractures may be needed.

A comparison of Spiller's and Baudouin's pathological reports of the only two reported autopsies shows that Spiller and Smith found that the anterior horn-cells, the anterior and posterior spinal roots, the nerve, trunks, the spinal meninges and the pyramidal tracts were all normal. The transverse muscle fibres were well preserved, but the longitudinal striations were not distinct. The nerve fibres within the muscles appeared normal. There were definite lesions of the thymus gland and of the hemolymphatic system. The important points in Baudouin's autopsy report are:

(1) Changes in the external group of the anterior horn cells.

(2) Smallness of the anterior roots suggesting arrest in development.

(3) Abnormality of the peripheral nerve trunks, suggesting an arrest of development of the nerve fibres.

(4) Intense sclerosis and regressive changes in the muscles.

(5) Marked sclerosis of the thyroid gland and of the thymus gland.

Baudouin believes the muscular lesions are like those seen in myopathy. He believes in his case there was a thyroid insufficiency, yet in no case have the signs of such an insufficient or cretinoid symptoms been observed.

Berti (4) believes his case was associated with infantile myxoedema.

Cattaneo (5) believes myatonia is due to some congenital alteration of some gland's internal secretion destined to act on the tonus. The distribution of the trouble and the tendency to improve is against this theory.

One remembers here that in myasthenia one finds an alteration of certain glands as shown by Laquer et Weigert (19) Raymond et Alquier (20).

Bing removed a piece of muscle from his patient and aside from a possible slight increase in the nuclei the muscle appeared normal.

In view of the fact that the autopsy reports of the only two cases whose reports are accessible are considerably at variance; and considering the great number of views and theories advanced from the clinical study of the cases, one must reach the opinion that the pathology of myatonia is still unknown.

The report of my case is as follows:

O. K., girl, eight years old, referred by Dr. Waugh.

Father and mother living and well. Patient has one brother a year and a half old, who is well and strong. Mother has no children dead—no miscarriages. There is no nervous trouble or condition similar to the patient's in either the father's or mother's family.

Personal History.—Child was born after a perfectly normal labor, lasting about twelve hours, and without the use of instruments. Child breathed normally and was not cyanotic. Took breasts satisfactorily. Patient never had any spasms or convulsions. Was always a delicate child, suffering from vomiting and bowel trouble, due to an inability to get food to agree with her. Also had feverish attacks.

Soon after birth it was noticed that the face was almost immobile while laughing and crying, and that she had a blank expression. She was able to hold her head erect when a few months old, and sit up when seven months old. She began to talk when two years old, and got her teeth normally.

When she began to walk, which occurred when fourteen months old, it was noticed that she walked with a very peculiar waddling gait, as if double jointed, suggesting a congenital dislocation of both hips. She has been examined with the aid of the X-ray by orthopedists and found to be without this abnormality.

It was noticed at this time that her arms were not real strong, and that she seemed weak in her legs and fell and stumbled more than other children. She found it especially difficult to go up stairs, but with the aid of the banister she could come down all right. She has never had any choreic or athetoid movements. She seems to have a masklike expression of the face as if "afraid to stretch her mouth" when she smiles or laughs, her mother says.

It has been noticed that when lying in bed she lies with her feet on her abdomen. "to keep them warm" she says. There is no evidence of involvement of the sphincters.

Patient has always been a restless sleeper. She is in the third grade at school and is quick to learn.

Mother says there has been a slow improvement in the child's condition from the time she started to walk. There has been no change in the appearance of the arms, hands, legs or face. The mother says that doctors have tried to obtain her knee jerks previous to my examination and failed to get them.

Physical Examination.—Child is perhaps small for her age, with a peculiar passive, masklike dull facial expression. There is considerable drooping of the eyelids, slightly more on the left side; eyes are rather prominent, pupils equally dilated and react to light and accommodation; no nystagmus, no other eye signs or exophthalmic goitre. Face is symmetrical with no atrophy or wasting of the muscles, but the muscles seem relaxed, supraorbital reflex present. Can show teeth fairly well, and muscular power of lips is good. Ears well shaped and slightly protruding from head. Teeth good, no notching; palate normal; tongue not enlarged. Tonsils and adenoids removed last summer. Thyroid gland seems smaller than normal, being hardly perceptible. The neck muscles are all strong and well developed with the exception of both sternocleidomastoids, which seem quite weak and poorly developed.

The muscles of the back seem strong. The erector spinae showing great power is resisting when one endeavors to cause her to bend by pushing on the back of the head. The trapezius is well developed and strong. The scapular muscles seem about normal. She is able to bring the shoulder blades together strongly, and there is no winging. There is no more kyphosis than normal in a child in a sitting position. When she walks she walks with a marked lordosis.

The gluteal muscles seem soft and one can discover no change in the consistency of the structure from the skin to the bone in this region, although there seems to be no wasting, but if there is, it is covered with fat. The gluteal muscles seem to be weak when one endeavors to bring out their function. The pectoral muscles seem fairly strong and well developed. There is no evidence of persistent or large thymus gland.

The epigastric and abdominal reflexes are present and the abdominal muscles seem strong and well developed. The arms show no signs of wasting, the contour is good and full in all regions, but the upper arms feel soft and as if composed of homogeneous structure from skin to bone. The elbow, bicipital and supinator longus reflexes are present and normal. Both wrist jerks are absent. There is no atrophy of any of the small hand muscles. The strength of the adductors of the little fingers is good. There is no wasting of the thenar or hypothenar eminences. The interossei shows good strength and development. She seems to have good strength in both hands, and good strength in the triceps. She has almost no strength in her deltoids which are greatly affected, and there is the same homogeneous feel from skin to bone in this region.

When she endeavors to use the deltoid muscles she seems to rely on the scapula muscles largely.

The biceps seem quite weak. The flexors, extensors, supinators and pronators of both hands are good. The strength in the left arm is slightly less throughout, but no more than a normal variation in the right hand.

The proximal muscles of the arms and legs, or as one might say of some of the muscles of the shoulder and pelvic girdle, seem to have suffered more than the distal muscles.

The hypotonicity is shown by her ability to pronate the arms so as to bring the palmar surface completely and easily above, making almost a complete turn of the arm. She can cross the arms behind the back and bring both hands out under the axillae and up onto the points of the shoulder. She is able to hyper-extend the fingers and wrists until the fingers come within two inches of the forearm. The elbow jerks can be greatly hyperextended.

The knee jerks are brought out by re-inforcement, but do not seem to be as active as normal. Ankle jerks are not obtainable. Planter reflexes present. No Babinski, Oppenheim or Gordon reflex; no ankle clonus.

The lower extremities show a remarkable hypotonicity. She is able to cross her legs behind her neck. (Hagenbach's sign.) She can put the knees on the shoulder and extend legs out past her ears. Hypotonicity seems equal in both legs.

Mother says she sleeps with her feet on her abdomen to keep them warm. The feet can be extended so as to bring the toes within two inches of the crest of the tibiae. She can easily flex the legs on the thigh and have her feet lie in her lap and can bring them upon onto the epigastrium and rotate them so that planter surfaces are anterior. She can flex the leg on the thigh and rotate it outward and draw it up along side of the chest so that the toes are in the axilla, or even up onto the shoulders. She can put the dorsal surface of one foot onto the opposite side of her neck. Patient can abduct both legs at right angles with axis of body, and while sitting on floor with legs extended can bend forward and lay face on floor between ankles.

Feet do not show the "padlike" condition. No tendency to flatfoot. Left thigh seems a little more flabby and the subcutaneous structure more homogeneous than the right, but there is no atrophy or wasting demonstrable. There is no wasting or atrophy of the muscles of the legs, thighs, or feet.

The peroneal muscles, biceps, gastrocnemius, adductors and abductors are all good and strong.

She has always had good control of the sphincters. She has had no sensory disturbance to any form of sensation, muscular sense and sense of position being good. She has had no tremor, and there is no inco-ordination of the upper or lower extremities, no ataxia, Romberg sign being absent. There is no sign of rickets; no evidence of edema or of scleroderma. There are no fibrillary twitchings in any of the muscles of the body.

Ophthalmoscopic examination shows nothing abnormal. Urine negative as to any pathological findings.

Her gait is a peculiar waddling-like gait similar to that with congenital dislocation of the hips, but with much greater relaxation of the thighs, legs and feet.

She has considerable lumbar lordosis when she stands, with a slight tendency to an increased kyphotic curve in the dorsal region. In rising from the floor she first gets into a squatting position and then climbs up on her knees somewhat like in muscular dystrophy.

She walks with a pronounced hip action. She handles both legs exactly alike. She walks pigeon-toed, with ankles slightly everted.

She seems to have good control of the hands for exact movements as writing, etc. Mother thinks her temperament is more irritable than other children, but this is not noticeable during repeated examinations.

The electrical examination shows great diminution in the faradic excitability of the nerves, as compared to a normal individual with the same battery and at the same time used as a control.

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SOME PHASES OF SARCOMATA AND THEIR REMOVAL.

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Composed of embryonic or immature connective tissue cells, whose proliferative activity is apparently unrestrained by the higher laws of the organism, sarcomata are the most malignant of tumors. The mesoblastic elements from which they originate, having normally a relatively high power of regeneration, under certain conditions take on a recrudescence or mother cell capacity of proliferation. Uncontrolled by the higher physiologic laws of the organism, this regenerative activity becomes lawless and results in a new growth of over-sensitive and compact cells, protected by a minimum amount of intercellular substance. The riotous cell proliferation is expressed in rapid tumor growth; the endothelial involvement and an intimate relation of the tumor to the veins cause early and extensive metastases; the penetrating character of the constituent elements makes complete removal often impossible and recurrences frequent; while the histologic imperfection and relatively low power of resistance lead ultimately to degeneration, ulceration and necrosis.

Sarcomata may develop from any connective tissue of the body—fascia, skin, bone, periosteum, cartilage, meninges, walls of blood vessels, sheaths of nerves or neuroglia and fatty tissue. They are met with, probably most frequently, in the fascia, intermuscular septa, subcutaneous tissue, periosteum, osseous tissue and brain; less frequently in the uterus, intestines, liver, thyroid, pancreas and lungs. They are most common in early and middle life, this being the period of the highest regenerative capacity and physical activity. As sarcomata are rich in veins and

devoid of lymphatics, metastases occur chiefly through the circulation, while the lymph glands are relatively free from involvement.

While the exact etiology is unknown, the prevalent opinion is that trauma is an important exciting cause. A possible explanation of the part which trauma plays may be found in the well known law that injury results in a reaction or recrudescence of the injured cells whereby proliferative activity is increased and the co-ordinating power of growth, or, as it might be called, the somatic sense of form, is lost. Injury inflicted by toxins may produce the same results, and therefore may be regarded as having a causal relation to sarcoma.

Our texts on surgery all concede that a large percentage of sarcomata result from some form of injury. Not infrequently, possibly from pressure and irritation, sarcomata develop from the site of benign tumors, and in inflammatory tissue.

In response to letters of inquiry, W. J. Gillette writes that in a series of forty cases of sarcoma in his own practice, 40 per cent. gave a distinct history of trauma; J. G. Mumford estimates that 30 per cent. were due to this cause; W. J. Mayo says he can get a history of traumatism in almost every case, though "it is often too obscure to be of any value"; A. J. Ochsner, "In more than half of my cases of sarcoma there has been a known traumatism"; J. Ransohoff, "I have seen certain cases in which a traumatism was followed by a fast growing sarcoma"; W. J. Means, "Seventy per cent. of my recorded cases gave a history of trauma." In my own cases, 75 per cent. seem to be traceable to traumatism. In one case the injury was followed by a small tumor which did not seem to get any larger and was thought to be of no importance for two years, when it began to grow.

The early development of sarcoma is admittedly local and susceptible of complete removal. Unfortunately such cases, as a rule, do not reach the surgeon at this early stage. Usually, when they are seen by him, they have attained considerable size and involved a large amount of tissue, and possibly have extended by metastases. Experimentation has abundantly demonstrated that primary sarcoma is limited, that it grows by proliferation of its own cells and that, if excised early, all parts of the neoplasm may be removed. The chances of successful extirpation diminish inversely as the growth advances, and the infiltration and dispersion of the diseased cells vary with the nature of the tissue in which they are growing; compression may drive the neoplastic cells out into the interspaces of surrounding tissue, while motion and irritation may facilitate

metastases through the circulation. Since there is, in a great majority of cases, a period within which complete removal is possible, it is of the greatest importance that the public should be educated to a realization of the danger of malignant growth and the advantage of early removal.

All suspicious tumors, when possible, should be removed. Any mass of indurated tissue from an injury, persisting for a month or two without evidence that such induration is benign, should be regarded as a suspicious growth.

In answer to the question, "What percentage of cases remain cured after radical operation (a) when removed early, (b) when removed late?" Mumford replies, "Forty and 10 per cent. respectively"; Ochsner, "In very early cases in which it was possible to remove a large amount of surrounding tissue a large percent of cases have remained permanently cured after radical operation; after late operations, none have remained cured"; Ransohoff, "Only a very small proportion remain cured. Several cases of central sarcoma of bone have remained well, one of them now after twenty-two years after amputation at a distance. Several cases of sarcoma of the breast remained well, one case now ten years after radical operation. No cases of sarcoma of the upper jaw, with one exception, have lived more than three years after operation. One case of melanosarcoma is now living after fifteen years, although a second growth was removed two years ago without recurrence up to this date"; Gillette, "Of the fourteen cases known to be living, three have remained well for one year, three for three years, one for four years, two for six years, one for seven years, one for twelve years; the other three were operated upon within the last year. This gives a death rate of 62 per cent. in all cases. As there will probably be a recurrence of those more recently operated upon, the actual rate may be greater than this would indicate"; Means, "In five cases operated late, two are living, one twelve years, the other seven years after operation; the first was an osteosarcoma of upper third of the tibia, the other a sarcoma of the breast."

In a series of eleven of my own cases the results were as follows:

1. Mrs. B., forty-six.—With sarcoma over spine of scapula, thought to have resulted from fall; not firmly adherent; excised in 1899, without removal of scapula, with death from recurrence five years later.

2. Mr. J., fifty.—Left testicle involved; castration, with removal of left inguinal glands, 1902; living when last heard from five years later. No known traumatism; X-rays.

3. Mrs. C.—Mother of two children. Sarcoma,

with origin from periosteum on inner surface of sacrum; tumor rising up above brim of pelvis; only partial removal, 1903; diagnosis made by pathologist; death in about nine months.

4. Mrs. H., forty-six.—Sarcoma of superior maxillary; entire removal of left side of bone, 1904; malar involved, portion removed; recurrence apparently extending from the malar and connective tissue; death in seven months.

5. Mr. L., thirty-two.—Growth involving submaxillary and cervical region and parotid gland; operation, 1904, nine months after being first observed by patient; recurrence; death within a year; diagnosis confirmed by microscope.

6. Mr. R., forty-one.—(Referred by J. A. Riebel.) Deep cervical fascia, first noticed by patient one year before operation, 1906, and a few months after an injury of neck and head; one year after removal X-ray used; death in less than two years; diagnosis confirmed by microscope.

7. Mr. K., Russian, thirty-seven.—Large sarcoma of thyroid; operation to relieve pressure symptoms, 1906; recurrence and death in four months. Believe X-ray was used late.

8. Mrs. G., colored, thirty.—Round-celled sarcoma on anterior aspect of right thigh (referred by Sherman Leach); history of removal of a large sarcoma from same region eighteen months before; gestation supervening, growth of recurrent tumor was rapid and had attained large size, seven inches in diameter; hemaglobin 60, lymphocytes increased, leucocytes 10,000; careful removal, 1907; recurrence in five months, growing rapidly, involving pelvis and viscera; death in a year and a half from second removal. Round-celled, as shown by microscope.

9. Mr. E., thirty.—Small growth on head of fibula, following an injury; removed three months after tumor was felt by patient, 1907; periosteum adherent to head of bone; removal without amputation; subsequent treatment by X-ray; no recurrence in two years since operation.

10. Mrs. M., thirty.—Mother of two children (referred by Drs. Gallager and E. A. Hamilton); history of fall, with bruising of right sacral region, three years before; small nodule noticed from time of fall; this began to develop rapidly about a year before she came into the hospital; for six weeks just preceding her entrance she had suffered several quite severe hemorrhages, the tumor having broken down; she could not sit or walk about, but was confined to her bed; anemic and extremely feeble; under ether anesthesia the mass was removed, the incision through what seemed to be sound tissue; it had its origin apparently in the deep portions of the gluteus maximus muscle or deep fascia near the coccyx, and penetrated well into the pelvis; microscope showed a mixed spindle and round-celled sarcoma; recurrence evident in three weeks; this was removed; again a few weeks later a more extensive operation resulted in quiescence and almost complete healing; Dr. Bowen applied the X-ray treatment three or four times a week for two or three months; in two weeks all tissue was healed, and in four weeks the cicatrix was soft and pliable; there is very little deformity, as you may see from the photograph; no restriction of motion, and no resulting disability; she is doing her own housework and has given birth to a daughter, now

three months old. Blood examination January 17 (date of operation) showed hemoglobin 70 per cent., erythrocytes 2,500,000, leucocytes 5200, small lymphocytes 14 per cent., large lymphocytes 13 per cent., eosinophiles 2.5 per cent., polymorphonuclears 63 per cent., nucleated reds 2.5 per cent.; February 2, hemoglobin 75 per cent., large lymphocytes 10 per cent., polymorphonuclears 81 per cent., eosinophiles 2 per cent.

11. Mrs. S., colored.—With involvement of right parotid; careful removal, followed by the Coley toxin² treatment; beginning with a half drop, it has been increased one minim a day up to about twenty minims; then this sized dose was given twice or three times a week; each treatment is followed by a marked reaction—chill, pyrexia (from 1 to 4 degrees), with necrosis and gradual disappearance of the indurated tissue; the treatment will be continued for a month or two more. The use of the toxins has been employed in connection with the X-ray treatment by Dr. Bowen.

Of the eleven cases only one could be called an early operation; in four there has been no sign of recurrence. The mortality is 63 per cent., the average life after operation being sixteen months. In three of these cases the X-ray treatment was used—one has remained well for five years, another fifteen months, and the third is still under treatment. Several other cases on which I have less complete notes would give about the same results.

The public should be impressed with the importance of calling the attention of the family physician to all tumors or morbid growths. This would result in the saving of many lives and much suffering. In all cases our chief concern should be an early diagnosis and prompt and thorough extirpation; cutting well beyond the zone of the neoplasm, if practicable, amputating above the affected bone in osteosarcoma. Improvement along these lines in the treatment of sarcoma is sure to mark the surgery of the near future.

Distinct advances have been made in recent years by the employment of the Roentgen rays and the use of the mixed toxins of bacillus prodigious and streptococcus erysipclatis.

The frequency with which sarcomata are neglected until they have developed to such an extent as to greatly lessen the chances of permanent removal is a matter of common observation. There are, of course, some which, on account of the location, are practically inoperable from the beginning or from the time a diagnosis of a tumor is possible. We should not necessarily delay operation until an exact diagnosis of the nature of the growth is made; if the case be an operable one the tumor should be excised, care being taken to excise the entire mass, if possible, well out in the border of healthy tissue.

In cases which are sometimes considered inoperable it is a question whether the best treatment may not be to remove as much as possible of the new growth and then try the X-ray or the Coley toxins. Experience tends to show that the X-ray is much more effective after operation for removal, probably because there is less of the new growth to be acted upon and for the additional reason that it becomes more accessible to the action of the X-rays, with a better chance of removal of necrotic material. In many cases we are satisfied that the sarcomatous tissue has not all been removed. Microscopic slides made from the severed surfaces may show an abundance of the new growth. With the X-ray treatment good results, in a fair percentage of such cases, may be confidently expected. One of my cases, thus treated, is now of five years' standing, another of two. In addition, very often the removal of the greater part of the mass relieves pressure symptoms and prevents otherwise unavoidable destructive changes, while the operation itself makes the X-ray more effective. In these cases we may combine the Coley toxin and Roentgen rays treatment.

Treatment by the X-rays, especially after excision, has demonstrated that it has a decided inhibitory and cytolytic action on the cells of various forms of sarcoma.

W. W. Babcock³ regards the use of the X-rays as the most potent single method of checking the growth of sarcoma. Kaposi,⁴ in reporting 100 cases of hemorrhagic sarcoma, says that in many cases X-ray gave improvement; Pusey⁵ reported a case of round-celled sarcoma of cervical glands in which X-rays were employed after excision, with gradual improvement and apparently complete cure. Dr. B. F. Bowen has treated a great many cases with X-rays and says that he has had many apparently permanent cures. I am persuaded that without its use I should have had a recurrence in the sarcoma of the sacrogluteal region, above reported. Dr. Park⁶ says, "I have seen much benefit in certain cases after the use of the X-ray. I do not now recall a case of real cure"; Dr. Mumford says he has employed the X-rays in fifteen cases, in twelve of which recurrence took place; Dr. Ochsner, "My results have been satisfactory in treating the cicatrix with X-ray after removal"; the Drs. Mayo, "The treatment of sarcoma with the X-rays hardens the tissues and frequently seems of considerable service"; Dr. Murphy says, "I have used the X-ray on all these cases after operation, but I do not know that it has a striking effect"; Da Costa,⁷ "It seems, definitely proved that cases are frequently cured by X-rays"; La

Clerk⁸ says, "For certain sensitive sarcomas the X-ray suffices to cure. Radiotherapy is a useful complement of the excision and prevents recurrence"; Brewer⁹ says, "In inoperable sarcoma of the breast in extensive recurrence the X-rays offer a chance of improvement, arrest of the growth or radical cure"; Rose and Carless, "Hopeful results have been obtained by the use of the X-rays; the effect of the exposure to this extent is to set up a localized leucocytosis, and this results in the breaking down of the neoplasm and its replacement in favorable cases of fibrous tissue."

It has now been thirteen years since W. B. Coley¹⁰ began the use of the mixed toxin treatment. Having observed, with many others, that an attack of erysipelas sometimes caused the disappearance of sarcomata, he resorted at first to inoculations of streptococcus erysipelatis, but soon employed only the sterile broth culture of this germ, combining it with the toxin of bacillus prodigiosus.

In a paper published last year Dr. Coley sums up his results as follows: "My twenty-eight cases of cures, already over three years' standing, include sarcomas of every kind, except melanotic, and in all parts of the body ordinarily subject to the disease. They include cases primary in the skin, muscle and fascia; cases originating in the bone, periosteal and myeloid; cases primary in the neck, tonsil, pelvis, long bones (femur and tibia), spine and breast; and they include small round-celled, large round-celled, giant-celled and mixed-celled sarcoma." Dr. Coley states that in the great majority of his cases the diagnosis of sarcoma was confirmed by microscopical examinations made by the leading pathologists of the United States, and in the few remaining cases the concurrent opinions of independent surgeons left no reasonable doubt as to the correctness of the diagnosis. In several cases there was also a history of recurrence after primary operation.

One of Dr. Coley's osteosarcoma cases was that of a young man, twenty years of age, who has an enormous tumor, involving the lower dorsal and upper lumbar vertebrae. The patient had become greatly emaciated and so weak that he was unable to turn over in bed. After two months treatment the patient began to improve and one year after treatment he was in his usual flesh and able to resume his former occupation. Six years after treatment he is still in perfect health. In this case the diagnosis was confirmed by Dr. Harlow Brooks, pathologist to the Bellevue Hospital.

Another was the case of a young man with a sarcoma involving the lower third of the left

femur, including condyles. Under ether, a specimen of the tumor was removed and pronounced a round-celled sarcoma by Dr. E. K. Dunham, of Carnegie Laboratory, and Dr. B. H. Buxton, of Cornell Medical School. Amputation at the hip joint was strongly advised, but refused. Under the X-ray treatment for several months there was improvement, both local and general, with, however, the development of a large metastatic tumor in the left pectoral region, which grew with great rapidity, but was highly vascular. This was partially removed under ether anesthesia, and another in the right ileolumbar region which grew to the size of a child's head. Under the mixed toxin treatment this patient recovered perfect health and was, five years later, in perfect health.

I mention these two striking cases of successful treatment of osteosarcoma for the reason that the diagnosis was established beyond question, and the proof of cure was so conclusive.

Dr. Ransohoff has seen two cases treated with the Coley toxins in which the results certainly were remarkable in the way of reducing the size of the growth, but in neither case was the benefit permanent; Dr. Gillette says, while he has had no permanent results that he shall continue to use it for he has faith that its use in some cases is of benefit; Dr. Murphy says that no doubt it has a specific effect on many sarcomata, producing necrosis and sloughing, but that he has not had a cure from it; Dr. Ochsner states that while his results have been negative, he fears he has never used the serum as vigorously as Coley uses it; the Mayos reported that personally they have had very little experience with it, but that they have referred a number of cases to Dr. Coley with good results; recently Dr. C. A. Howell has treated a sarcoma of the clavicle—in a case refusing a radical operation—with Coley's mixed toxins, with apparently good results; Dr. J. C. Oliver¹² has had once case of inoperable sarcoma of the neck successfully treated with the toxin, and several other cases greatly benefited; Dr. O. K. Winberg¹³ reports the complete cure of a recurrent sarcoma of the superior maxillary bone which has infected the nose, soft palate, pharynx and parotid region with metastatic enlargement of the liver. Here the correctness of the diagnosis seems to have been placed beyond question. Portions of the mass removed were pronounced sarcoma by Dr. Rothrock, Dr. Shadle, Dr. George Haggard, Dr. B. H. Buxton, Dr. James Ewing, Cornell Medical School, and Dr. W. H. Welch, Johns Hopkins University.

Of a series of cases successfully treated with the toxins by other surgeons than Dr. Coley,

twenty-two were round-celled sarcoma; fourteen spindle-celled; three mixed-celled; three endo-thelioma; two epithelioma; one melanotic, and sixteen in which no examination was made.

It would seem that a practical remedy, capable of saving so much suffering and so many lives, in the absence of anything better, should be more generally employed by the profession. I am in no way advocating the X-rays or the Coley toxins as substitutes for excision, where this is possible, but only as supplements or auxiliaries of surgical measures. Of all cases operated upon early, in the general line of cases as they come to the surgeon, probably not more than 25 per cent. remain permanently cured. These results could be greatly improved if cases were reported earlier and surgeons were prompt in operating in all suspected cases. Coley's statistics, including about 500 cases of inoperable sarcoma treated by the mixed toxins, show that 10 per cent. recover. This 10 per cent. is, of course, of the inoperable cases—uncured and incurable, in all probability by any other means. Thus we have, with the combination of operative measures and the Coley serum, a chance to save about 35 per cent. Now, if, in addition to this, the X-ray treatment be employed, to prevent recurrence and complete the cures after excision, it is not improbable that we would be able to save another 10 or 15 per cent. of those affected with this type of malignant growth.

In brief we believe, with the means now at hand, that our best results in this difficult field of surgery are to be secured by:

1. The early recognition and thorough excision of all suspicious tumors.
2. Repeated excisions, when practicable, of all recurrent growths.
3. The education of the public to the possible dangers of neglected tumors and especially of those following traumatism.
4. The confirmation of all diagnosis by competent pathologists.
5. The X-ray treatment to prevent recurrence and complete cures after thorough removal by operation.
6. The combined X-ray and mixed toxin after-treatment in all bad cases.
7. Coley's toxin treatment for all inoperable cases.

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2. The process in detail is as follows: Streptococcus culture in broth, three-weeks growth, 11 cc.; prodigious suspension, containing 750 milligrams of prodigious proteid, 30 cc.; glycerin, 20 cc. Each cc. of the mixture then contains 5 milligrams of the prodigious proteid. Consider-

ing 1 oz. to be equal to 29.57 cc., it contains 147.85 milligrams prodigious proteid; 1 cc. equals about 17 minims, so 1 minim contains about 3 milligrams of prodigious. The prodigious suspension used is made and measured in the following way: Prodigious is grown on agar for ten days. There is then a thick growth, which is scraped off with glass rods and rubbed up with a mortar and pestle to a smooth, rather thick suspension, using salt solution as a diluent. This suspension is sterilized by heat—1 hour at 75°. The total N. per cc. is determined and the weight of N. per cc. multiplied by the factor 6.25 gives the weight of proteid present. Thus the weight of prodigious proteid in each cc. is known and the suspension is diluted to the required strength before mixing with the streptococcus culture. After mixing and bottling the toxins the mixture is again sterilized 2 hours at 75°. (Boston Medical and Surgical Journal, February 2, 1908.)

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DISCUSSION.

Dr. Ransohoff, Cincinnati: The only reason I take the floor is to show a specimen which I think is unique. The essayist has referred to this case of melano-sarcoma. I saw this patient first fourteen years ago. He was then seventy-two years of age, and I removed from his axilla a large mass of sarcomatous glands. There was no question as to the diagnosis at all. There was no question as to what the outcome of the operation would be. We felt certain that the man would recover from the operation and would have a very speedy recurrence. He recovered from the operation without any difficulty, but he had no recurrence. I heard of the man every now and then for a number of years, always expecting to find that he had a recurrence, but he did not. Two and a half years ago the man developed upon the outer side of his arm above the elbow a small growth, which was removed in a neighboring city, I think under cocaine. The wound had scarcely healed when a recurrence developed. The man was at this time eighty years of age, and he was referred to me with this growth as large as a pigeon's egg, rather lobulated under the skin, distinctly bluish black in color, and having all the earmarks clinically of a melano-sarcoma. Notwithstanding his advanced age, we made a very radical incision of this growth, and I have this specimen to present here. You will see that grossly the specimen is as characteristic of melano-sarcoma as anything can be, and this diagnosis has been confirmed by clinical observation. Now, notwithstanding this operation having been done two years ago, I have heard from his physician only a few days ago, and I learn that now, two years after the operation, notwithstanding the advanced age of the patient, this man is still well and without a sign of recurrence. It may be the very advanced years of this man has something to do with the clinical non-malignancy of this melano-sarcoma. We know that malignancy grows less and less severe with advancing years.

This is the only case of melano-sarcoma in which the disease was late in life. You know it is a condition of early life.

In regard to the end results of operative treatment, I am free to say that I know nothing that is more doleful. When you come to sarcoma situated in bone, everyone knows that the end results are good, if you see them before they break the shell of bone. I have seen cases which lived after amputation many years. I have had very few cases of osteo-sarcoma live for any great length of time even after amputation. I remember two or three cases in which we amputated above the knee for periosteal sarcoma of the leg that seemed to be perfectly well, that had no recurrence, but died in the course of a few months with metastases, usually in the lung.

With regard to Coley treatment, I must say that no one who has watched and carried it out with vigor can help but believe that there is something in it. Two cases of my own have I seen—one of the scapula and another of the neck—in which the growth seemed to dwindle away under the Coley treatment. In one case I operated, with recurrence, and while the treatment was being instituted the recurrence was so fast that nothing could be done. Now we have under observation in the City Hospital a woman who had an enormous swelling above the clavicle. It had no pulsation, it didn't look like an aneurism. One of the staff officers, for diagnostic purposes, put a needle into it, and a stream of blood came out that nearly touched the ceiling. This woman had a tumor twice as large as the face, and with it there was pressure on the branchial plexus, so there was a paralysis of all the muscles of the arm; there was pressure on the veins, so that the hand was swollen two or three times its normal proportion. No surgeon would have had the hardihood to cut on that case. The Coley treatment was instituted, and it was marvelous how that tumor began to go down. It was greatly reduced in size, the function of the muscles had been restored, and the oedema of the extremity from vein pressure had gradually subsided. Now, I don't believe the cure will be positive, but it shows that the Coley serum has a positively beneficial effect on these cases that otherwise are hopeless.

Dr. Whitacre, Cincinnati: I really shouldn't discuss the paper, as I have not heard it, but I want to report a case of mole sarcoma, likewise cured, and say that all of these cases are not necessarily so absolutely hopeless that you cannot allow them to recover. This patient suffered from a small growth developing in a mole on the shoulder. The mole began to grow, and a local surgeon from the South decided to remove it. He removed it, and it promptly returned. This was removed again, with a prompt return. The patient was referred to me, and I made a complete resection of the glands of the neck, extending down into the axilla under the clavicle. These glands were black. They showed the characteristic microscopical structure of melano-sarcoma. The original tumor was typical sarcomatous tissue. This operation was done a year ago last November, and this man is now perfectly well, and I have heard from him within a short time. I believe another case of melano-sarcoma treated

by operative means and cured has been reported by Dr. Dandridge. I will simply refer to it as a case which I saw operated on at Christ Hospital. It was a huge growth in the neck, and in discussing the case a year afterwards he said there had been no recurrence. I made microscopical sections of this patient and was present at the operation—believe I assisted in the operation. So that there are cases that do recover, and I feel with Dr. Ransohoff that these old cases give us encouragement. My patient was not over fifty-four years old.

Dr. Freiberg, Cincinnati: Sarcomata do not come under the head of my surgical treatment, but there was a time when I was greatly interested in them, and this discussion interests me because of something that was told me just yesterday by one of my medical friends. It shows how careful we must be about talking about a cure. He almost gave me a fright when he spoke about it yesterday, because I thought it was going to be the first case of melano-sarcoma I had ever heard of that was cured. Now, I don't believe Dr. Ransohoff's case was cured. I certainly don't know that Dr. Whitacre's case was cured. But years ago I operated on a little boy with melano-sarcoma. Yesterday the doctor told me he was now developing a sarcoma on the chest, so that I think it is a melano-sarcoma of the chest. I have very little doubt that it will prove to be of the same nature as the growth above, in which case there is room for suspicion that after all is said and done it is the same neoplasm, so that I think is possibly a point worth considering.

Dr. Hall, Cincinnati: I think Dr. Ransohoff raises a very important question. I have in mind a patient that I operated on about sixteen years ago for cancer of the body of the uterus—sarcoma—and she recovered and remained well for thirteen years. She was about forty-five when operated on. Then she died with a malignant growth inside her abdomen. No autopsy was made. Now, whether that was a second growth or a growth following her operation I am not able to say.

My personal experience has been somewhat limited in sarcoma. Really all that I have had has been with the Coley treatment. I had some little knowledge of operative measures, but the experience with the Coley treatment has been possibly the most I have had, and I experienced about what Dr. Ransohoff stated, that in the use of the Coley toxin there was a very rapid disappearance of the growth, and the reappearance was just as rapid as the disappearance, and the patient succumbed in a very short time. The question of a permanent cure of these melano-sarcoma is a very important question. I believe that where these growths disappear a great length of time after removal there is sufficient time for a new growth to develop without any relation to the primary growth that has been removed. My experience with carcinoma—a case was operated ten or twelve years ago, and the pathological examination at that time was of scirrhous carcinoma, and there had been no recurrence, when all of a sudden there was a development of a malignant growth of the uterus, and I don't believe it was a metastasis. I believe it was a new growth.

Dr. Barnhill (closing): The fear of recurrence should not restrain us from operating on all cases in which there seems a possible chance of complete removal. There are many men who generally advise against operation for the reason that they fear the cases are too far advanced. The discussion here today indicates that surgeons generally are willing to operate, even in some apparently hopeless cases. This is proper, since there is usually a quiescent period after the removal, as in the case reported by Dr. Ransohoff. That man, in all probability, would have died very soon if he had not had the operation. What effect the operation had in the ten years of life following is, of course, problematical. The new growth may be a recurrence or a second sarcoma starting from other cells. It is possible that certain individuals may have a predisposition to cell recrudescence and neoplastic growth, and that in such persons the growths have an independent origin.

Another thought I had in mind was the possible advantages of X-ray treatment, especially on the granulation and scar tissue after operations. The immature embryonic cells are more sensitive to the X-ray than mature tissue. For instance, the man who uses the X-ray constantly may be rendered sterile himself, the embryonic cells of the testicle being in some way injured by the action of the X-ray. It illustrates that the X-ray does affect immature embryonic tissue more than it does mature tissue.

The footnote in the paper gives the method of preparation of the toxins.

A COMPLICATED CASE OF ABDOMINAL PREGNANCY.

MAGNUS TATE, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

I am indebted to Dr. Keeney of Bellevue, Kentucky, for referring this interesting case, and for the history up to the time of our consultation.

Patient age 30. Married twice. Four years ago by first husband had one child, still born, eight months old. History following birth of child uneventful, patient was apparently healthy, except at menstrual periods, when flow was very profuse. Married the second time two years ago. Last menstruation May 17, 1908. The following month, that is in June, a slight menstrual flow showed itself lasting only one day. The first day of August a few clots of blood passed per vaginam.

August 4, Mrs. ——— taken with severe pains in left lower abdominal region, accompanied by belching and eructations of gas, and this followed by vomiting and passing of much flatus. Great difficulty of breathing, pulse rapid and tempera-

ture slightly elevated. Soon patient's condition described as having passed into a state of collapse which lasted some hours.

August 5—Over lower left abdomen found to be very tender to touch, and there was a flow of bright red blood from vagina. This was accompanied by severe pains in abdomen, by chills and vomiting.

August 12—Bleeding continuing but slight.

August 22—Recurrence of symptoms like unto those of first attack, but not quite so severe. At which time a vaginal examination revealed the uterus to be enlarged and a round swelling was found posterior and to the left. The flow continued irregularly all through August to the fifteenth of September when it ceased.

October 1—Mrs. — appeared to be fairly comfortable. Fœtal heart not detected but the uterine souffle could be easily heard and patient claimed she felt life.

Vaginal examination—Cervix could not be felt.

On December 18 patient ate a very hearty meal, and in a few hours was taken with severe vomiting, following by symptoms again similar to those of the first attack.

December 29-30 and 31 pains so severe, hypodermics of morphia had to be administered. I was called to see case December 31, 1908.

Considering the above history of recited symptoms we have a somewhat typical case of ectopic pregnancy, the tube rupturing about the third month. Our examination was not satisfactory. Pulse 100, temperature 99 to 101. The abdomen was very large and uneven. In the center around the umbilicus and to the right was a mass the size of a small cocoanut, which upon palpation was hard, unyielding and not movable. No fœtal heart could be detected after a careful abdominal auscultation, but a sound somewhat like that of the uterine souffle could be heard, but it seemed so muffled that we could not positively assert its character.

Vaginal examination, which was very difficult, revealed a cervix underneath the symphysis and a beg semi-fluctuant bulging mass filling up the pelvis. This mass felt as if it were a cyst with another cyst back of it. No extremity or part of child could be made out by abdominal or vaginal examination. While reasonably sure that an ectopic pregnancy existed, it seemed to me that our case was further complicated, and by what we could not state.

With this provisional diagnosis I was very frank with the patient and family telling them exactly what we found, and to the family the gravity of case was thoroughly explained. The patient, a very intelligent woman, not only readily

consented to operation, but asked that it be done very soon. We sent her to the Good Samaritan Hospital, where she remained four days, we trying to get her in an operable condition, but the temperature did not subside nor the pain lessen. Incision five inches in median line was made, and we came upon a smooth membranous structure not unlike a thickened peritoneum, and at first I thought it was peritoneum that that we were not in the abdominal cavity, but we soon demonstrated that we were not dealing with peritoneum. As far as the hand could reach, above, to the sides and below, it glided over this smooth surface without breaking its continuity.

I then determined it best to go through this structure and upon making a small opening about an eighth of an inch urine gushed out flooding my field. This enlarged sac with its extensive attachments proved to be the bladder. It extended up over hard mass in center of abdomen (previously mentioned), was attached above underneath the ensiform cartilage to intestines and omentum in a glued mass, to the sides and below to intestines by a mass of adhesions as if any old inflammatory pus tube had existed over the whole area.

By making careful traction and pushing with gauze, I gained an entrance point, and slowly dissected bladder from intestines, omentum and off of mass underneath.

It took me at least half an hour to accomplish this and the many little raw oozing points now in my field were legion. We had before us a raw surface which extended from ensiform cartilage to pelvis and from one side of abdomen to other constantly oozing blood, the points too small and too many for the haemostatic to grasp, and only partially controlled by heat from large hot abdominal sponges. The bladder bag roughly estimated, was twelve by fourteen inches in size and was now rolled upon itself, wrapped in a hot, large sponge and tucked down into the lower part of abdomen out of field. Mass to median and right of center line was found to be uterus, on top of ectopic sac. A supra-vaginal hysterectomy was now necessary, as the uterus was in the way of removal of child. Both broad ligaments were stretched over the lower part of sac mass and were easily tied. The left tube and ovary were removed, but I was not able to state the condition of the whole of right tube or ovary, as everything seemed to be in one large mass, and I did not care to waste valuable time trying to liberate further pathological conditions in this locality.

We now had a large uneven mass sac in our field, adherent above to omentum and intestines

and below fastened in pelvic cavity, and to this other mass in right ovarian region. In trying to introduce some gauze pads around sac as a protection before opening it, the lower right part gave way and a small cyst burst, flooding field with a limpid clear fluid probably a point in quantity, and just as we had nicely mopped the surface a part of the sac at lower angle gave way, deluging field with amniotic fluid brownish in color and quite offensive. The sac was then quickly cut open placenta first removed, as it was almost directly under the incision. It was a slimy greasy mass.

In attempting removal of child, grasping feet we found above that head and left arm were imbedded among the intestines outside of sac, and the rest of child was in the sac. The child weighed five pounds, well developed, had been dead probably a week or two, judging by its general appearance and the condition of skin.

The sac wall was packed with gauze and two large rubber drainage tubes also inserted and the whole mass brought up to abdominal wall, after hurriedly mopping out part of abdominal cavity outside of sac and inserting of gauze, unfolding of bladder and laying this over and to side of sac. Vaginal drainage was also made.

Patient taken from table pulseless and in a desperate condition.

Time of operation one hour and thirty minutes.

By stimulation we were able to bring pulse up to a good steady volume. Patient soon became rational, but in four hours pulse again became imperceptible and she died at 8:30 p. m.

DISCUSSION.

Dr. Moore, Toledo: I would like to make a report of two cases of my own. In my own case, there was an extra-uterine pregnancy, rupture of the tube in the third month. On opening the abdomen I had the same experience as Dr. Tate, and the sac proved to be the bladder, wide at the pelvic brim and narrowed to a point, reaching the umbilicus, followed this case. The second case was one I saw in 1905, with Dr. Ochsner in Chicago, about the same history, tube ruptured about the third month, and the patient made a nice recovery in the hospital and went home. But she had a great deal of trouble afterwards. Three months afterwards she was admitted to the hospital and she had a large abdomen and had symptoms of sepsis. We felt a foetus weighing about eight pounds, which had undoubtedly been dead for some months. I have never seen a printed report of this case, but it was most interesting to many of us there at that time.

Dr. Bowers, Dayton: I would like to report one case I saw of abdominal pregnancy. I had examined her when she was two or three months along. She had a mass in the right tube, and she had no symptoms, with the exception of pain

and her uterus enlarged. She had not menstruated for nearly three months, and really I didn't suspect tubal pregnancy, although I thought she might have a pus tube with pregnancy. She went along without any unusual symptoms up until the time of labor, which should have been in December. She had severe pain, called her physician, and he thought she was in labor; didn't find any dilatation of the cervix, went home and didn't see anything of her for six weeks or two months. I saw her again on the sixteenth of February, which was eleven months from the time pregnancy was supposed to have taken place, found a large mass in the abdomen; examining the uterus found it was not enlarged much, the cervix was normal, so I suspected abdominal pregnancy. Operated the next day, and found in the median line, back of the peritoneum a large mass, which was brought out in toto. She made an uneventful recovery; the mass weighed fourteen pounds, and the child nine or ten pounds.

A bright and altogether satisfactory light for throat examinations can be made cheaply by covering sixteen-candle power Edison electric bulb with a smooth layer of plaster of paris, about three-eighths of an inch thick, leaving on one side an aperture the size of a silver half dollar, or large. The white inner surface of the plaster brilliantly reflects the light. The outer surface may be painted black.—Surgical Suggestions.

After operating on a diseased bone, the wound should not be dressed too often. The fine granulations which form are very liable to be pulled off with the removal of the packing.—Surgical Suggestions.

In many cases of shock, a venous infusion will more often save life than dallying with stimulents which merely, in the end, serve to tire out the heart.—Surgical Suggestions.

Too prolonged or too rapid and vigorous use of the pump in the Bier apparatus will frequently cause a rupture of the superficial blood vessels, and in many cases severe sloughing of the superficial parts ensues, the result of the treatment being worse than the primary cause of the trouble. Application of the Bier cup to an abscess four or five minutes twice a day is more beneficial than a single application of ten minutes.—Surgical Suggestions.

A bichlorid of mercury dressing should never be applied on an area of skin on which tincture of iodine has been recently painted. An iodid of mercury is formed, which is highly irritating.—Surgical Suggestions.

PALLIATIVE TREATMENT OF PROSTATIC HYPERTROPHY.

A. J. McCracken, A. M., M. D.
Bellefontaine.

[Read before the Ohio State Medical Association.]

It shall be the purpose of this paper not to go into the minutiae as to the etiology—pathology and diagnosis of prostatic hypertrophy, but to present, as it seems to the writer, the most important points in the palliative treatment of this disease. And when all has been accomplished that is possible by this means, then we must look to the radical operation for further relief, provided, of course, the patient can stand such a procedure.

It is the general practitioner who first sees these patients with enlarged prostates, and upon his skill as a diagnostician and ability as a physician to suggest a line of treatment suitable to each case, depends the comfort and often the life of his patient.

When a patient of fifty-five or more years of age presents himself, complaining of frequent and difficult urination and dribbling, be it from overflow, bladder irritability or incontinence, one at once suspects some form of prostatic disease. Given this train of symptoms, the physician should begin the study of his patient by taking a complete history as to his mode of life, beginning of urinary troubles, frequency of urination day and night, the amount of pain at beginning and close of the act, previous diseases and all other data bearing upon his case.

Having completed the record of his case, then come the various steps in an examination by which you determine the amount of prostatic obstruction.

First. Rectal palpation; second, determining the length of the urethra by means of a soft rubber catheter; third, occasionally combined rectal and suprapubic examination is of use where there is a large intra-vesical enlargement; fourth, examination of the urine and determination of average amount of residual urine; fifth, the use of an Andrews stone searcher to determine the presence or absence of stone in the bladder; sixth, cystoscopic examination.

But whatever method or combination of methods the physician employs, his examination of the patient must be conducted in a careful and methodical manner, and having made a diagnosis, he should be able to suggest a line of treatment best suited to this individual case. But if

for any reason the physician is not able to do this, or does not wish to tell the patient the result of his examination, then he should by all means send him at once to some one able to do so. But whatever is done, we should not temporize; for a few days delay in instituting a proper line of treatment may mean either a comfortable patient for the rest of his natural life or a patient subjected to all the pain, misery and danger to which such a patient is liable.

The differentiation of true prostatic hypertrophy from tuberculosis of the bladder, abscess, inflammation, malignancy and contracture of the vesical orifice should be made before expressing an opinion. In malignancy the differential diagnosis may be especially difficult and sometimes is impossible until the rapid progress of the disease shows its malignant nature. In vesical contracture the essential differentiating point is that there is no increase in the urethral length and no appreciable enlargement of the prostate.

While this disease is not in itself fatal, yet it is slowly progressive, and if the bladder once becomes chronically inflamed, it never returns to its normal condition. A kidney complication is serious, and the most common death is from toxemia or septicemia due to the kidney involvement. As one writer says, "The surest criterion of prognosis is the patient's amenability to palliative treatment, and he is safe only so long as his symptoms yield to palliative treatment." Another noted authority says: "Palliative treatment sometimes prolongs life very greatly, and almost invariably adds much to the comfort of the patient. However, statistics show that the average life of a patient who uses the catheter is only about three years; notwithstanding the cases that occasionally exist where patients use the catheter without any special effort at cleanliness and live over a long period of time in apparent comfort."

But whether the treatment be palliative or radical, there are a few general rules that apply with equal force to each case. The motto of both physician and patient must be, "Beware of congestion." The patient must be seasonably and warmly dressed, keep his feet warm and dry; avoid cold, draughts, fatigue and all excesses, be they alcoholic, sexual, physical or mental. He must keep his bowels well open and drink plenty of water; some buttermilk, cocoa and coffee are allowable, but no fruits because of their acidity. These general rules should be strictly followed day in and day out, in season and out of season, for upon their rigid observance depends the comfort and welfare of your patient.

This brief resume brings us to the palliative

treatment which we will consider under two general forms in both of which the soft rubber or silk mercier catheter is used to the greatest advantage of both patient and physician.

- I. Acute Retention.
- II. Chronic Retention.

Either of these may be partial or complete in character.

Simple acute retention partial or complete is often the first thing that brings the patient face to face with the fact that he has some trouble, of a serious nature, with his urinary organs. Often exposure to cold, wet or damp feet, a loaded rectum, going too long without making an effort to urinate brings on the acute retention, and he finds that he cannot pass more than one-fourth or one-half of his urine and often none at all. In such a condition it is difficult to pass a catheter, as it indicates a nodular or irregularly shaped obstruction at the neck of the bladder or in the prostatic urethra.

Often a brisk saline, hot foot and sitz bath and hot penile immersions will enable him to almost, if not completely, empty his bladder. After the acute condition has subsided it is expedient to determine the amount of residual urine, which is often only a few ounces, then the passage of a soft rubber catheter once a day will suffice for a long time, but as the amount of residual urine gradually increases it will be necessary to pass the catheter several times a day. The longer the urine, bladder and kidneys remain non-infected the less frequent will it be necessary to pass the catheter, nor is irrigation so essential, for any unnecessary manipulation of any instrument in the urethra should be studiously avoided, because of the danger of injury and introducing infection into a clean urethra and bladder.

Another case presents with a chronic retention which may be partial or complete, but there is at all times from six to ten ounces of urine in the bladder. When such a case presents himself with a bladder much distended and passing a small amount of clear urine frequently, it is a risky, if not a dangerous proceeding, to pass a catheter into that bladder and empty it completely at one sitting; thereby allowing the bladder walls to suddenly collapse, which almost always produces an intense congestion of the bladder, ureters and kidneys and often death due to suppression and uraemia. Rather begin by withdrawing one or two ounces the first day, and on each subsequent day withdraw one ounce more than on the day preceding, thus allowing the bladder walls to gradually regain their tonicity. When you have a foul urine and infected blad-

der, it is best to empty the bladder, each time irrigating with a warm saturated solution of boracic acid and at the last of the washing leave an amount of the solution in the bladder, according to the rule just laid down for emptying a bladder distended, with clear urine.

When you have reached the point where you can empty the bladder at one sitting, you can institute a line of treatment which will be productive of great comfort and benefit to your patient. I refer to the use of prolonged and continuous bladder drainage for all cases of prostatic hypertrophy which come to our hands as general practitioners for palliative treatment. Generally speaking, there are four classes of these cases.

- I. A large prostate producing little obstruction and causing little, if any, urine.

- II. A small prostatic obstruction producing some pain and from two to six ounces of residual urine.

- III. An old man with an infected bladder large prostate, and a large amount of residual urine always present.

- IV. An old man in poor physical condition, with a large prostate, an infected bladder, urine and kidneys and a large amount of residual urine.

In the first class of cases the passage of the soft rubber catheter once or twice in twenty-four hours will often suffice for a long time and make the patient very comfortable. In the second class it will be necessary to pass the catheter a little more frequently.

It is to the last two classes of cases that the prolonged and continuous drainage is the greatest God-send; for owing to the serious kidney and bladder complications, their age and general condition, a radical operation is practically out of the question, and we are compelled to turn to palliative treatment for relief. Many of these patients get along comfortably by being taught the use of their catheter during the night. It can be introduced, fastened in position, and the bladder irrigated and then the penis and catheter placed in a urinal or salt mouthed bottle, and thus he can sleep during the night. In the morning after irrigating the bladder, the catheter can be removed, and the patient will often pass a very comfortable day. If, however, the patient has a temperature or suffers any pain during the day, keep the catheter in place until his general condition shows marked improvement as well as the condition of the urine and kidneys. The catheter must be removed once in twenty-four hours and cleansed, the urethra irrigated and then the catheter replaced and fastened in position. Under the use of the catheter for prolonged drainage, the condition of the urine steadily improves and it is possible to keep the

bladder and kidneys in a fairly healthy condition for a long time, for it gives functional rest to both; the patient is more comfortable, and the amount of pus, mucus, albumin and epithelial debris steadily diminishes.

W. N. Wishard, one of our greatest genito-urinary surgeons, tells me, "That for the past two or three years he has made it an almost invariable rule to use prolonged drainage of the bladder by means of a soft rubber catheter introduced the natural way, as a routine method not only in palliative treatment of prostatic hypertrophy, but in all cases where he contemplated doing the radical operation."

If unable to pass your soft rubber catheter, allow me to present for your consideration the Wishard silk mercier prostatic catheter, flattened from before backward. Failure to pass this catheter is so rare that I will not consider the use of the metal catheters, only to say that they should not be used except as a last resort, for the danger of doing damage to a tender urethra and an enlarged and sensitive prostate is very great.

I wish now to briefly, and as emphatically as possible, emphasize the absolute necessity for cleanliness of instruments, lubricants, hands, the glands and urethra. Too many physicians regard too lightly the necessity for such great care and cleanliness in doing such a simple thing, as it often is of passing a catheter; but each time an instrument, be it soft rubber, silk or metal, is introduced, there is always danger of carrying infection into a clean bladder. The soft rubber catheter should be boiled, the silk mercier rinsed in alcohol and warm water, the lubricant sterilized each day or two, if it is vaseline or oil, by placing the container in boiling water. The glands, penis and meatus should be cleansed with a 1-5000 bichlorid solution, the urethra irrigated with a saturated solution of boracic acid, and last, but by no means least, the hands of the physician should be as thoroughly cleansed and sterilized as though he were going into the abdominal cavity.

The alpha and omega of proper catheterization is cleanliness, sterilization and gentleness first, last and always in all urethral work.

Should you fail at any time to pass a catheter in acute retention due to prostatic hypertrophy, the palliative operation of choice is a median perineal section, with or without a guide, thus giving the best of drainage and perfect functional rest to the bladder and kidneys, and with your drainage tube in place you can irrigate the bladder as frequently as desired. Should you elect to make a supra-pubic puncture, use a

trocar and cannula large enough so that after the withdrawal of the trocar you can pass a soft rubber catheter through the cannula; then, gently withdrawing your cannula, leave the catheter in position for a few days or until able to establish drainage the natural way or do a median perineal section under local anathesia.

The urinary antiseptics as urotropin, benzoic acid and baborate of soda should be used as indicated, along with tonics, rest in bed, and a plain, wholesome diet. Give plenty of water and keep bowels will open.

As to opiates, use with the greatest of caution, for this disease is progressive and may cover a period of several years; if used, they are best used in a suppository.

In closing, I wish to briefly summarize the points of the paper, which I consider of the greatest importance in the palliative treatment of prostatic hypertrophy.

I. Make a complete and careful record of the patient's history and symptoms.

II. A careful and methodical examination, with record of findings, these to be studied with the previous records. The faithful following up of these two methods in each and every case will develop an accurate and conscientious diagnostician.

III. A rational and complete line of treatment of each case and a persistent adherence thereto.

IV. Careful selection of catheters. The greatest of care as to cleanliness and sterilization at all times and in each and every case.

V. And lastly the great advantage and comfort afforded by the prolonged and continuous bladder drainage in all cases with an infected urine and damaged kidneys, and all cases who refuse radical operation, or who for good reasons cannot undergo the radical cure. "And it will often make an old man appreciate the necessity of the systematic use of the catheter to tell him that his eyes have grown old and he needs to use his glasses to aid him in seeing, and that his bladder has also grown old, and he needs to use his bladder spectacles in the shape of a catheter, to give him comfort and length of days."

DISCUSSION.

C. M. Harpster, Toledo: Only to start the ball rolling I would like to say a few words. This is a very able paper. In old people, with an inflamed or ulcerated bladder, where I have never been able to have them retain the catheter, I have tried the plan outlined by Dr. McCracken a number of times, and especially in the female as well as the male. Johnson & Johnson have sent me a soft rubber catheter for the female, and I inserted that into a number of old ladies with the intention of leaving it in all night, and in several instances they were only able to retain it a few hours. They told me they were suffering intensely and they had to have the catheter removed. I have had the same experience with the male where the bladder is infected and inflamed,

etc., and the difficulty in retaining the catheter, in my experience, has been very great.

I would like to show a specimen here if I may have a moment. The great difficulty in the male is in teaching them cleanliness. In old people even under the charge of competent physicians and surgeons, the bladder will, in time, become infected. That has been my experience. Now, I believe if this infection can be cleared up, either by a prostatectomy, or as Dr. McCracken has in a way suggested, by a perineal section or preliminary drainage of the bladder, it will help a great deal. I performed a prostatectomy the other day where there was two small projections into the bladder neck. I have the specimen here if any wish to see it. This man had ten days preliminary drainage of the bladder, although I was not able to use the catheter continuously as suggested by Dr. McCracken. I had to withdraw it. A good many others are suggesting preliminary drainage. In the male where I have done perineal section, I remove the prostate at the same time.

I would like to see a very liberal discussion of this paper.

T. M. Reade, Springfield: Dr. McCracken has presented a subject of the highest importance. There is no class of cases that appeal to us more strongly than that of aged men suffering from enlargement of the prostate gland and the train of evils that accompany that condition. While great advances have been made in recent years in the surgery of the prostate, I believe that a large number of cases can be greatly benefited by palliative treatment. By this I mean the proper use of the catheter, first by the physician, and after instruction, by the patient himself. The most distressing feature of this malady is incontinence with retention. If we can succeed in keeping the bladder comparatively empty and maintaining the urine in an aseptic condition, we may afford our patients many years of at least a comfortable existence.

W. N. Wishard, Indianapolis, Ind.: I am very glad to be with you this morning, but I am always glad to be in Cincinnati, where many years ago—I won't tell you how many—I attended medical school and got my diploma, and so when I received an invitation from one of the members of our committee to come down to the meeting, I was eager to accept it, especially since my friend, Dr. Lewis, was on the program, and I would have the added pleasure of hearing him.

I was very much interested in Dr. McCracken's paper on the palliative treatment of hypertrophy of the prostate. I take it that he includes under the head of palliative treatment that class of cases in which we use general applications of palliative treatment, first that class of cases where we prescribe a more or less profound course of palliative treatment with a view to subsequent operation, and second that class of cases where we apply palliative treatment with the expectation of depending upon palliative treatment alone. I think perhaps there is no other point more clearly demonstrated in the palliative treatment of these cases upon which we propose to operate than the fact that more or less profound rest of the lower urinary tract secures a very great advantage in the ease with which the patient bears surgical procedures.

Now, a few days ago I was up in Rochester, Minn., and I was told by the cystoscopist of the Mayo Brothers that they rarely operated upon a patient for anything where there was a specific gravity below 1010, and where there was a reduction of the percentage of urea. I was very much interested in that, because in my own experience, particularly the last four or five years, I have observed very constantly the beneficial influence exerted by drainage over the urine. The urea increases, the specific gravity increases, the amount passed diminishes, and the amount of epithelial debris diminishes. As far as the technique of drainage is concerned, it resolves itself into the question of what is the best way to drain, and how. Some patients will bear practically continuous drainage without the slightest discomfort, and with expressions of the greatest relief. As to the method of using the drainage, the selection of the catheter of course is primarily most important. The ordinary soft rubber catheter answers very well. But how are you to leave a soft rubber catheter in all the time and have the patient up and about? And yet, in many cases I have known patients to use a soft rubber catheter, or a silk catheter if a soft rubber catheter is not applicable. The catheter makes it possible for a great many of these patients to go about their business and be up and about with a degree of comparative comfort.

Then there is the problem of anchoring the catheter. It is only a minor thing, but yet a major thing in many of these cases. The technique of anchoring the catheter in a comfortable way, so that the patient will not dislodge it by the movements of the body or by the contraction of the urethra is a matter of importance. Ordinarily, I use one of two methods, either a couple of pieces of tape folded and placed on the side of the penis, and held in position by a circular rubber adhesive strip, and a tape passed through the loops of the projecting tapes. Some prefer a thread because it is more convenient and less in the way. The thread is passed through the loops on either side and tied around the catheter. It is necessary to select a catheter that has a sufficient amount of firmness to permit the tension exerted by the thread. An ordinary, medium, soft rubber catheter will permit such tension from the thread. Some of the patients complain very much because the adhesive strip makes the penis sore, and in such cases, particularly where the patients are able to be up and about, and where we are not to drain permanently, but for a considerable time, and bands and adhesive strips are in the way, I have them take the finger of a glove and cut it at either end and take a piece of muslin and make it in that shape, just as though it were like a finger of the glove, and slip it over the penis. Then have the patient put on an ordinary suspensory bandage, and then with a safety-pin attach this muslin finger stall, which is passed over the penis to the suspensory bandage. The bandage is passed around the waist and between the legs, and the thread is attached to the other end of this little muslin slip. This is worn with comfort, and the patient can make a half dozen of them and put on a clean one every morning. Permanent drainage in many cases does admirably. I do not mean to suggest that continuous drainage in this way is at all neces-

sary in all cases, but I do find that many cases that do not do well under intermittent catheterization, do better under permanent drainage. Many of my patients adjust a catheter in this way at night and leave it out during the day, anchoring it and leaving it in all night so that they may sleep without being disturbed by the frequent necessity of getting up. I am only speaking in relation to the very interesting paper by Dr. McCracken when I take the opportunity of dilating on the simple method of drainage which has helped me so many times.

I want to say one word in closing in reference to the selection of catheters. I said a while ago that the soft rubber catheter was applicable to the majority of cases, but in many cases where the soft rubber catheter cannot be introduced. I have found it of great advantage to use the flat catheter which Dr. McCracken showed. This catheter is simply a modification of the catheter which is flattened laterally. The idea of this flattening occurred to me when I was using a catheter flattened laterally, and I observed that the stiffness of the catheter was increased very little. The representative of the company that manufactures this catheter was with me at the time, and I said to him, "That would be a very good idea to put on backward," and he said, "What do you mean?" and I told him I would flatten it in the other direction, and he asked me for a drawing of the catheter, which I gave him, and this catheter is the result. This is more flexible than the ordinary catheter, it passes more easily, and in some cases I have been able to enter with it when I could not get any other instrument in. It is only applicable to certain cases, of course, and is not in any sense to take the place of the soft rubber catheter which is applicable in a larger number of cases.

A. J. McCracken, Bellefontaine (closing): I believe that I have nothing further to add in closing, but take this opportunity of thanking especially our guests, Drs. Bransford, Lewis, Wheeler, Wishard and all other discussants for the kindly manner in which they have received the paper, and for their helpful suggestions. And I wish to say especially that I have had the privilege and honor of being a student and graduate assistant of Dr. Wishard for several years, and it gives me great pleasure to acknowledge this fact, for as student and assistant I received many teachings and suggestions which are embodied in this paper.

In looking for a foreign body on the surface of the eye, examine the tear points with care. An incarcerated lash or cut end of hair may be the cause of the trouble.

A sty is often most easily treated by the removal of the hair in the infected follicle and the subsequent application of iced boracic acid compresses.—Surgical Suggestions.

Excessive purgation and too frequent enemata before operation may be productive of a great deal of post-operative distention.—Surgical Suggestions.

THE EXTENSION OF MIDDLE EAR SUPPURATION THROUGH THE INTERNAL EAR TO THE BRAIN.

JOHN A. THOMPSON, M. D., LL. D.
Cincinnati.

[Read before the Ohio State Medical Association.]

The internal ear suppurates in 1 per cent. of all cases of suppuration in the middle ear (Friedrich). More than 50 per cent. of patients with labyrinth suppuration die from extension of the infection to the meninges or brain (Hinsberg). The inner ear may be involved in the acute suppuration of scarlatina or measles when the patient usually dies with the symptoms of meningitis. Generally labyrinth infection is secondary to chronic purulent otitis media. Ninety-five of Jansen's 100 cases occurred in sufferers from chronic purulent otitis and only five in patients with acute tympanic infection. The chronic cases show symptoms of inner ear infection before the brain is diseased. If the significance of these symptoms is recognized by the family doctor, to whom they go first for relief, the resources of modern otology are such that the labyrinth can be drained before the intracranial complications destroy the life of the patient. If the symptoms are misrepresented or misunderstood the otologist sees the patient when irreparable damage is done and operation is almost hopeless. The specialist has only recently learned the meaning of these symptoms of labyrinth infection and the possibility of operation before extension to the brain has occurred. It is one purpose of meetings such as this to inform the family doctor of such advances in special work and enable him to recognize such lesions as suppurative labyrinthitis in time to obtain for his patient the necessary treatment.

The older textbooks taught us that infection of the cranial contents was through erosion of the thin roof of the attic or antrum, through thrombosis of blood vessels, through the perivascular lymph sheaths or through the natural sutures in children. These methods of infection were carefully discussed. Extension of infection through the inner ear was dismissed in one sentence like this from Bacon: "In rare instances the pathogenic processes reach the cerebellum from the tympanic cavity through the internal auditory meatus, along the sheath of the auditory or facial nerve." Politzer's (fourth edition) only reference to it is in a note in small type.

Extension of suppuration to the inner ear may

occur through the foramen rotundum, foramen ovale, external semi-circular canal and wall of the promontory. The most frequent point of infection is the foramen rotundum and the others follow in frequency in the order given. The lesion is limited to the cochlea in 50 per cent. of the cases and it was diseased in seventy-nine of the eighty-six cases studied by Reik. When we remember the numerous openings in the cochlea for the entrance of the branches of the auditory nerve we will not be surprised at the large per cent of brain infections in suppuration of the internal ear.

The fever of chronic labyrinth suppuration is not characteristic. The elevation of temperature is slight. Any sudden increase in a patient with chronic otorrhoea and symptoms of labyrinth infection is a danger signal that should call for immediate action. It usually means an infection of the cranial contents. The long continued suppuration in the middle ear has made the body resistant and prompt drainage of the mastoid and labyrinth may prevent the later opening of the brain.

Headache is common to all chronic inflammations in the temporal bone. It is only occasionally suggestive of the extension of the disease to other parts. Sometimes it is a clear indication of the necessity for intervention. In one of my patients, a girl with chronic otorrhoea, recurrent occipital headaches were so severe she could only be easy when lying across the bed with her head over the edge of it so the neck was extended as far as possible. A radical mastoid operation cured these headaches.

Nausea and vomiting in a patient with chronic otorrhoea should not be treated as a gastric ailment until by careful examination, the ear can be excluded as a casual factor. If persistent dizziness accompany them, the probability of infection in semi-circular canals is greatly increased. A severe vertigo may occur at the time of infection and persist for a week. When the terminal filaments of the auditory nerve in the ampullae are destroyed the nausea, vertigo and dizziness will not be felt, giving a deceptive appearance of improvement in a patient where the disease is extending. Tinnitus aurium is another subjective symptom that is apt to be misleading. It may be present early, but disappears with the destruction of the nerve filaments.

The hearing in over 50 per cent. of ears with labyrinth suppuration is completely destroyed. When we recall that the cochlea is involved in 90 per cent. of all cases it would seem reasonable to expect even a larger percentage of total deafness. That some fibres of the nerve may

retain their function when to the unaided eye the parts seems totally destroyed, is proven by one of my patients. When first seen in September, 1907, her mental condition was such that no satisfactory examination was possible. Both ears were badly diseased, but she heard and would obey instructions to change her position in the bed. The possibility of lip reading was excluded in this case by covering her eyes with a towel while I cleaned out the ears. An operation on the right, the worse ear, uncovered a very large cholesteatome that had eroded the bone in all directions. A post-mortem examination showed it had extended to the internal ear and had apparently destroyed it. Suppuration had extended along the auditory nerve and the right lobe of the cerebellum was only an abscess cavity surrounded by thickened membranes. The post-mortem examination showed almost as bad a condition on the left side where no operation had been made. There was a cholesteatome in the mastoid cells and similar changes in the labyrinth. Here also the suppuration had extended along the nerve and there was a small abscess in the left lobe of the cerebellum. Some degree of hearing then does not exclude extensive disease in the labyrinth and brain, although deafness is the rule. This disease will be characterized by impaired bone conduction, reduction of the range of hearing both above and below, negative Rinne and in the Weber test, better hearing of the fork on the unaffected side.

Nystagmus is often present in labyrinth suppuration and is of especial value in diagnosis when associated with deafness and vertigo. The rotation is toward the sound side. Failure of the caloric test indicates destruction of the labyrinth. Associated with fever and headache this symptom would justify draining of the internal ear.

There is a conflict of opinion as to the value of the turning and the galvanic tests. Further investigation is needed before we can determine their worth. When rotation produces nystagmus the semi-circular canals are probably not diseased. When the terminal nerve filaments in the ampullae of the semi-circular canals are destroyed rotation will not produce nystagmus. The test probably will not give any information as to the condition of the other parts of the labyrinth.

Facial paralysis in a patient with chronic otorrhoea is a danger signal that should call for immediate drainage of the affected cavities. It is usually interpreted as signifying destruction of the bone of the aqueductus fallopii and exposure of the nerve. It may also mean an extension of inflammation from the cochlea and the in-

vovement of the nerve in the internal auditory meatus or its inclusion in inflammatory exudate on the posterior surface of the petrous portion of the temporal bone. A patient whose history demonstrates the correctness of this statement was seen in May, 1908. There had been chronic suppuration in the left ear for thirty-five years. An acute exacerbation began five weeks before I saw him. This attack was attended by nausea, vomiting, vertigo and intense headache. The afternoon temperature was 103 F. The appearance of a facial paralysis in the fifth week made the family call another attending physician and I saw him with the second doctor the next day. A radical mastoid operation was made as soon as the patient's consent could be obtained. The brain was not opened at this time because no definite localizing symptoms could be found. There was a temporary improvement in his condition, but the fifth day after operation he became worse. The seventh day the cerebellum was opened and an abscess found immediately behind the internal auditory meatus. Two ounces of very offensive pus were evacuated. The brain tissues were so inflamed there was little relief from the drainage and the patient died the following day. There were definite symptoms in this case that should have brought it to operation much earlier.

The symptoms in an acute suppuration of the labyrinth are so pronounced they will rarely be overlooked. The insidious progress of a chronic case may lead to a misunderstanding of the symptoms until the brain is infected. Briefly recapitulated the danger signals in a case of chronic otorrhoea are fever, headaches, nausea, vertigo and in some cases facial paralysis. Their presence should lead to an expert examination of the diseased ear. If the functional tests show infection of the labyrinth a radical mastoid operation should be made first and as a final step the diseased portion of the inner ear should be drained. If this is done early enough a meningitis or a brain abscess will be prevented.

DISCUSSION.

Dr. Mithoefer: There is one point the essayist did not bring out in the paper, and that is the importance of recognizing the condition of the ear and brain by the presence of nystagmus. He mentioned the fact that nystagmus occurs towards the healthy side. It is a known fact that a circumscribed labyrinth will give a nystagmus to the diseased side. It is in these cases, I think, that it is necessary to try to make a differential diagnosis. If you have a nystagmus to the diseased side, you can take it for granted that the labyrinth is not much involved, and that you can

almost positively rule out the presence of a cerebellar abscess when there is present a nystagmus to the healthy side after irrigation, the nystagmus to the diseased continuing, you are justified in going to the cerebellum, because in these cases we usually have present a cerebellar abscess.

Dr. Lukens, Toledo: I was very much interested in Dr. Thompson's paper, because I am having some trouble along that line myself just now. I have a patient who has had trouble with her ears since about the holidays, although I did not see her until a few weeks ago. At first she was dizzy, had vomiting and symptoms of brain irritation, which have all subsided. She now has faint air conduction on one side only, but no bone conduction at all and no Galton. There is a slight pus discharge at times in her hearing ear, which escapes through a minute perforation back of the umbo. Mt. is in good condition. She has heard no spoken word since the beginning of her inner ear disease until quite recently, after K. I. administration and dry cleansing, when she can at times hear shouted words in this one ear, but to be lost again for days. I feel cowardly to suggest operation on this one ear, with a good prospect of causing her to lose what little hearing she has, particularly when the danger symptoms have subsided. The case is hopeless unless the *vis medicatrix naturae* will do something unusual.

J. A. Thompson (closing discussion): In trying to make my paper as brief as possible I condensed all I had to say in regard to nystagmus into two sentences.

In an acute inflammation of the labyrinth the movement is toward the sound side. The failure of the caloric test—that is, syringing the ear with hot and cold water—to produce nystagmus indicates destruction of the labyrinth.

As to the time of operation, there is a decided difference in time, whether you are dealing with chronic or acute cases. I have been discussing only chronic cases. As an example of how fast a fatal result may occur in these, I had an experience last December. A healthy young German with a chronic purulent otitis came home from work Saturday evening with a headache. Monday he was not able to go to work. Tuesday the family doctor was called. Wednesday the family doctor telephoned for me to come and do a paracentesis.

When I examined the case, I told him it was already a hopeless otitic meningitis and did nothing. The patient was dead by noon Thursday.

Usually where the infection extends through the internal ear the result is a cerebellar abscess. There are absolutely no diagnostic symptoms in cases of cerebellar abscess. I had a case of this kind two years ago, where one entire lobe of the cerebellum was destroyed and there were no symptoms.

The point of my whole paper is this: If these cases are thoroughly examined early, there are symptoms which show the involvement of the labyrinth before the brain is infected. Drainage of the mastoid and labyrinth at this time will prevent either otitic meningitis or otitic brain abscess.

MULTIPLE MYELOMA WITH A REPORT OF TWO CASES.

GEORGE F. ZINNINGER, M. D.,
Canton.

[Read before the Ohio State Medical Association.]

It is my desire today to invite your attention to a comparatively rare affection though found to be increasingly more frequently met with since its more general recognition is being established and appreciated. I shall first present the clinical history and autopsy briefs of the two cases I have studied and thereafter to some features of the disease as to its mode of development, pathology and diagnosis.

Case 1—The following are the data having a direct bearing on a case formerly reported in *American Medicine*, Vol. VII, pp. 637.

Farmer, seventy-five years of age; of good antecedents and nothing in the family or past history bearing on case. The patient dates his illness to a very hard fall which he received in December, 1901. This fall was directly on the sacrum and was so severe that the patient was unable to walk for several weeks, though no fracture was sustained. The patient from this time gradually declined in health and strength suffering pain in the pelvic region and later in the right side of chest. Also suffered much from gaseous distention of bowels and constipation. Gradually grew paler and weaker, emaciating, and dying of asthenia, September, 1902. From autopsy report I abstract the following:

"In the hollow of the sacrum, especially to the left and passing out over the sacro-iliac synchondrosis, was found a circular tumor, 10 cm. in diameter and 4 cm. in thickness. It was about half buried in an erosion of the bone which was thrown up in a ledge around the edge of the tumor. The tumor had mottled red and grey appearance, and was of soft, marrow-like consistency. In the anterior third of the right clavicle was found a tumor about the size of an average walnut, the bone being entirely replaced by it. On the anterior third of the third, fourth and fifth ribs on the right side were found oblong shaped tumors about twice the width of the ribs, displacing the bone, except a thin shell on the anterior side. These tumors could not be palpated externally, even after our attention had been directed to their presence."

Histopathologic Examination—The general characteristics of the tumor are a delicate connective-tissue stroma and large thin-walled ves-

sels and capillaries forming a loose mesh-work in which are loosely placed the characteristic tumor cells. The prevailing cell is large and oval, in some instances angular from mutual compression, sharply circumscribed with excentric nucleus and nucleolus, and of clear, smooth, distinct cytoplasm. It greatly resembles a plasma cell of Unna, but is much larger in size and the nucleus which is found (both single and multiple is always vesicular. Indeed the number of multinucleated cells found is quite remarkable and as many as four distinct nuclei have been found, but more often two or three only are present, and often instead of being distinct and separate they are polymorphous, being connected by threads of chromatin. A distinct nucleolus is seen in nearly every cell. Besides the characteristic tumor cells, numerous polymorphonuclear leukocytes and nucleated blood corpuscles are found. Many of the tumor cells contain inclusions. The tumor contains a very delicate connective-tissue stroma usually accompanying and supporting a very rich vascular supply. The veins and capillaries are very thin-walled, often only an endothelial layer. They are greatly distended and apparently contain more than the usual number of polymorphonuclear leukocytes. The characteristic tumor cells are in intimate proximity to these capillary spaces.

Case 2—Patient female, age sixty-four; first consulted a physician June, 1907, for general aching, tiredness, loss of appetite, cough and diffuse pains in neck and chest. At this time had a tumor in the manubrium of the sternum to be described later and this she confidently attributed to a fall on a tub impinging on this point, which she sustained February, 1907. The pains of the chest never were severe when the body was quietly at rest, but were later excruciating upon attempting active or passive movements. In September the patient was first confined to bed and the kyphosis of the spine and curvature of the sternum, to be described later, became noticeable.

I first saw the patient November 18, 1907, and noted the following: Patient in bed in half sitting position, resting against a bank of pillows, having pain in the dorsal region and over the sternum. This pain, while more or less constant, became agonizing upon attempting the least active or passive movement.

Physical examination revealed a swelling over the head of the sternum occupying the site of the manubrium, somewhat rounded upon the palpable surface, rather soft and giving the suggestion of a doughy feeling. The tumor was fixed in position by the two clavicles entering the mass from the sides and the sternum below, to all of which it

was firmly attached. There was a marked kyphosis of the upper dorsal spine, and the dorsal spinous process and the ribs were very sensitive to pressure. The blood examination at this time showed moderate anaemia only as the following count shows:

rbc	3608000
wbc	4600
h'b	70%

The urine which was excreted in normal quantity showed a spgr. of 1018, and was acid in reaction. There was a large amount of albumin present, also numerous hyaline and granular casts. Though looked for, there was no albumose present in the urine.

I again saw the patient April 8, 1908. The clinical picture had changed but little, there being a greater curvature of the spine, more marked anaemia, greater emaciation. The albumin in the urine persisting, but no albumose demonstrable. The temperature and pulse throughout the illness ranged within normal limits except during a intercurrent attack of erysipelas, which occurred March, 1908. Patient during the last years of her life had a low grade chronic bronchitis. Patient bed-ridden weak, and exhausted, died August 31, 1908.

Autopsy Brief—Body of a thin, aged female, about five feet five inches in length. Marked kyphosis of the dorsal spine; the sternum markedly bent upon itself so that it described a semi-circle; marked rounded swelling over the manubrium, the skin covering same of normal appearance. Body arterially embalmed. The heart and lungs were of normal appearance, to patient's age. The spleen was not enlarged, but somewhat darker than normal in color and of normal consistence. The stomach and intestines were normal in appearance. The liver was not enlarged, was pale in color and upon cut surface showed fatty change.

The kidneys were smaller than normal in size, nodular and deformed in contour, and the capsule strongly adherent over certain areas which were of denser structure and stripping with difficulty. The cut surface showed a kidney dense in structure, the cortex thinner than normal everywhere, but very uneven in thickness. Strands of connective tissue strongly map out areas of parenchymatous structures which microscopically show but little change. The kidneys we may say were of the nodular, patchy arterio-sclerotic type of contracted kidney. The larger blood vessels were the seat of moderate arterio-scleroses and atheromatous plaques.

The manubrium of the sternum was replaced by a tumor representing in shape a circular

biconvex lens with a strong curvature on the posterior and a slight curvature in the anterior surface, being about 8 c. m. in diameter and 3 c. m. in thickness and enclosed in a fibrous capsule and having in its structure some of the cartilaginous articulations of both clavicles.

The tumor was fairly dense for one of its class, and upon its cut surface had a mottling of red and grey. The density was in large part due to the embalming fluid and the mottling to hemorrhagic extravasation. Numerous of the ribs had upon them fusiform swellings which upon opening were found to be due to soft, pulpy, reddish myelomatous masses. Numerous of the ribs had from one to several of these swellings upon them, but in no single instance was there complete erosion of the bony structure, but in many instances this bony wall was reduced to an exceeding thin lamella of bone. There existed osteomalacia of all the bones having a cancellous structure, especially marked was this the case in the bones of the dorsal vertebrae and sternum; though the ribs also shared in this process and being in certain areas quite soft, while in others were much harder and inclined to splinter under crushing pressure. The marked kyphosis was entirely due to this very soft compressible condition of the bodies of the dorsal vertebrae. Within the cancellous tissue there were small, reddish masses of myeloid tissue. The long bones were hard, but examination of the marrow was not permissible.

Histopathological Examination—The structure of the tumor consists of a sparse, delicate, loose meshed connection tissue stroma, in which and as a part of this ground work structure of the tumor are numerous, various sized blood vessels having very thin walls. In the meshes of this stroma lie the tumor cells.

The tumor is composed of a distinct cell, varying somewhat in size, round, oval or ovoid in shape, though many are polygonal from mutual compression. There is no cell wall demonstrable, and the cytoplasm is clear, though at times has a suggestion of a ground glass appearance.

The cell nucleus is rather large, round or oval. The chromatin is granular or reticular, with a tendency to grouping on the nuclear membrane, which is plainly demonstrable. A large portion of the cells have multiple nuclei, and in many of the cells a distinct nucleolus is seen. Since the only stain used was haematoxylin-eosin, we are unable to say whether the cytoplasm shows any granulation or whether the nucleolus reacts metachromatically.

At the very onset the question presents itself, are these growths true neoplasms or do they belong to the group of granulomata?

Pappenheim holds that the bone marrow lesions are but the manifestation of a systemic disease. The opposite contention is that they belong to the true tumors, and that they belong to that group which metastasize in a single system of the body of which the lymphosarcomata is a typical example; however in myeloma metastases into the viscera has been reported.

Judged by their histo-pathological structure, in that they have a definite specific cell and a connective tissue and blood vessel stroma, together with the further fact that they show distinct evidence of invasive growth by breaking through bony walls and infiltrating adjacent structures, one can hardly hesitate to regard them as true neoplastic growths.

If, on the other hand, the multiple tumors are not metastases into a single system, but tumors all of multiple inception, this seems to lend support to the view that they are due to some generalized disease most probable of an infectious aetiology.

These tumors always arise in the bone marrow, proliferating, produce erosions of the bones in which they arise, in fact the tumors seem to imperceptibly merge into the normal marrow. In case two besides the large tumors pointed out, innumerable small myelogenous nodules were present.

In gross appearance the descriptions of all the reported cases are rather analogous, viz., they always arise in cancellous bone marrow; are of a pulpy consistence; showing a tendency to flatten out by their own weight when laid upon a flat surface; a mottling of deep red or translucent gray in color. The greyish areas of firmer consistency than the red.

In their histo-pathological structure a great similarity is to be noted in the descriptions of the various authors reporting the cases. They all speak of a tumor made up of a delicate stroma of connective tissue in the meshes of the stroma are packed cells which may be round but more often oval or pear-shape, having no cell wall, bearing a rather large single or multiple nucleus usually eccentrically placed and in most of them nucleoli are to be found.

The tumors are very vascular; the larger and smaller blood vessels ramify in the sparse connective tissue stroma. The vessels are thin walled; in fact, the smaller vessels being made up only of an endothelial layer and the tumor cells being in intimately close relationship with the vessels.

As to the histo-genesis of the tumor cells in myelomata investigators are at variance.

Wright, in one of the earliest reported cases in this country holds that the tumor cell is identical

with the plasma cell of Unna and premises that the plasma cell is a normal constituent of the bone marrow. Christian, reporting on eleven cases from material collected from various sources concurs in the conclusion reached by Wright and, so to speak, stamps this as the Harvard view.

As against this view is that taken by McCallum reporting from Welch's Laboratory of the Johns Hopkins Medical School, who believes that the genesis of the tumor cells is from the premyelocyte of the bone marrow. Collecting from about twenty of the subsequently reported cases bearing on the above point, we may say that about one-half of the authors are inclined to the view that the tumor cell is a true myelocyte derivative, while the other half believe that it is derived from a normal constituent cell of the bone marrow, identical with or analogous to the plasma cell of Unna. Sternberg is the only author who has described cytoplasmic granulations in the cells of one of these tumors, and in a reported case by Ribbert, an erethroblastic nature was claimed.

While in all these tumors slight variations exist in the histo-pathology and in the morphology of the constituent tumor cell, but I believe they are as nearly uniform as in any other class or type of neoplasms. Exact measurements have shown that the tumor cells vary from the smaller, measuring approximately 8.5×4.5 microns, to that of the larger measuring 12×10 microns, and the nuclei varying from 4 to 8 microns in their largest diameter. The average measurements of myelocytes and premyelocytes is 11.5×7 microns, and their nuclei varying from 7 to 8.5 microns in their largest diameter; and the bone marrow plasma cells average 9×7 microns and their nuclei average about 5.5 microns in their largest diameter.

From this it will be seen that while the cells forming the various tumors vary in size, the average more nearly corresponds with that of the plasma cell. Though a study of the internal structure of the cell nucleus inclines one to classify them as related to the myelocyte rather than to the plasma cell, and if Sternberg's findings of cytoplasmic granulation is corroborated in further studies it seems to me it would go a great ways in establishing the classification of the tumor cell. It is claimed, also, that young myelocytes do not show cytoplasmic granulation.

The Blood—In view of the fact that a number of investigators hold that the genesis of the tumor cell is from the premyelocyte of the bone marrow it would be interesting to know what have been the blood findings, whether myelocytes, or a neutrophilic leucocytosis had existed in the circulating blood. In case No. 1 reported, no blood examina-

tion was made, while in case No. 2 no myelocytes were present in the blood specimens and no neutrophilic leucocytosis was present; in fact, merely a simple anaemia existed and the differential leucocyte percentages was normal. Simple anaemia, I believe, was present in all of the reported cases, so far as I have been able to learn.

The Urine—In 1848 Bence Jones reported the presence of an albuminous body in the urine, associated with a diseased state of the bones, and increasing study has placed this proteid body in the group of albumoses. Concerning the exact chemical nature of this body but little is known and even less is known as to the relation of its formation and excretion in diseased states of the bone marrow.

The increasing reports of cases in the literature have come to regard the presence of this body in the urine as almost pathognomonic of multiple myeloma since its presence has been found in the great preponderance of all the reported cases, though it is to be noted that in a small number of cases, even though specifically searched for, it was found to be absent.

In the cases reported by Charles and Collins the urine contained no albumose, and case No. 2 of this report is a case in which extensive myelomatosis existed, yet no albumose was present in the urine. However, the urine always contained serum albumin.

The clinical aspect of these cases is worthy of consideration in that they manifest a symptomatology usually definite enough to warrant one in at least suspecting the presence of multiple myeloma or definitely diagnosing the same. Take for example a case in which you note the presence of a constant pain over definite areas of the bones having a cancellous structure; the bone developing a bulging swelling, leading often to a spontaneous fracture; the appearance later of definite soft tumor masses; the patient showing some emaciation, a growing pallor, anaemia and weakness, you should strongly suspect multiple myeloma. Albumose having been found as above stated in the urine of nearly all the reported cases, hence the necessity for specifically testing for this substance, and its immense diagnostic import if found, in conjunction with the above named signs and symptoms, and also in cases not showing any of the aforesaid physical signs for many of the cases the tumor growths instead of appearing upon the external surface of the skeleton they project into the visceral cavities.

I desire to extend my thanks to H. A. Myers, of Paris, O., and to J. A. Gosling, of Tiffin, for the privilege of reporting these cases.

DISCUSSION.

Chairman Hoover: Did you employ any therapy, or attempt to employ any at all?

Dr. Zininger: I would say we did not except the general use of arsenic and other alteratives, which, so far as I am able to judge, had no effect upon the progress of the cases treated. I wish to say that Case No. 1 was not diagnosed during life. If you will refer to the report of this case in *American Medicine* you will see that the diagnosis was made at autopsy. In making a rectal examination the examining finger ran against a hard bony mass, which we thought indicated osteosarcoma of the sacrum. This diagnosis was erroneous and a true diagnosis was made during the post-mortem. The second case was diagnosed during life.

Chairman Hoover: Was there much pain?

Dr. Zininger: There was severe pain in both cases upon passive motion, while but very little when the body was at rest. As long as the body was in a fixed position there was very little pain. In the second case the pain was so great upon attempting movement that it was almost impossible to shift the patient in bed.

Chairman Hoover: In the case of a patient coming under my observation, attention was first attracted to the condition by a fracture. The fact that first aroused the patient's suspicions was that he had constant pain when using his arm, lifting it up in an upward direction. The clavicle was broken. An immense callus appeared, accompanied by very much less pain than one would expect from a fracture of a sound bone. Later tumors developed in the skull and in the sternum. There were three large ones in the skull, containing a pulsating mass lying between the examining finger and the brain. One could put his finger right through the skull. This patient was suspected of having gummata, but the only pain he really suffered was the pain from the fractured clavicle. The tumors gave him no pain at all. In fact, at the time syphilis was ruled out because the patient had no pain. I think that is rather important, because gummata can as a rule be excluded by the fact that the patient has no pain. Not long ago, however, I saw a man who fractured his tibia while dancing, the fracture from slight violence being due to a gumma in the tibia, but it was not until after the fracture that the growth of the gumma became apparent and caused pain.

Dr. Zininger: I also desire to merely call attention to the fact that there was a history of hard falls in each of these cases. The first patient was a farmer who fell from overhead a wagon-shed and alighting upon his sacrum. This fall was so severe that, although he sustained no fracture, he was as a result of it in bed three weeks, and some three months later began developing the condition recited.

The second case was that of a farmer's wife who fell forward very forcibly striking the manubrium of her sternum on the edge of a washtub and in this case the large tumor formed on the manubrium of the sternum.

What relation if any, these falls bear to the development of these tumors, I am unable to say. I am merely reporting the facts.

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FREE DISTRIBUTION OF DIPHTHERIA ANTITOXIN BY THE STATE.

We wish to draw attention to the abstract in this number of THE JOURNAL, of the article read before the meeting of the Boards of Health of Southern Ohio, at Cincinnati, by Burt R. Rickards, chief of laboratories of the State Board of Health, as presenting a matter in which we as physicians should be very greatly interested.

Diphtheria antitoxin has stood the test of time, and must be recognized as a specific; its widespread use has materially diminished the number of cases and frequency of epidemics of this scourge of childhood, but this is not enough. Diphtheria is a disease that can be banished from civilization, and its continued presence is a reflection upon us as guardians of the public health.

It can be banished easier and more cheaply than many other epidemic diseases that have already disappeared; it only requires the universal use of the antitoxin, not only for every case of the disease, but also for protecting those exposed to infection. This necessitates abundance of antitoxin available in every community and supplied free of cost, if necessary. Mr. Rickards, in his summary, epitomizes the whole subject admirably and shows conclusively that it is

clearly the province and duty of the state to take this matter in hand as quickly as possible.

It should not seem necessary to argue this proposition to physicians; the only question that arises is how we can help toward the consummation of this suggestion.

If, as seems likely, a bill bearing on this project should be introduced at the next meeting of the legislature, the Legislative Committee will doubtless take up the matter and due notices will be given later. In the meanwhile—*carpe diem*—*make friends with your representatives and senators now*, so that if the necessity arises for this or other measures, your personal acquaintanceship may help considerably at a time when it may be needed.

“THE SAFE AND SANE FOURTH OF JULY.”

Columbus has fallen in line for the “safe and sane” celebration of the Fourth of July. The city council last month passed two ordinances without a dissenting vote, that ought to assure the much hoped for relief from conditions that were not only intolerable to a great many citizens, but were so fruitful of danger and injury especially to children. These two ordinances provide for

the prevention of "any pyrotechnic displays or the explosion of any kind of fireworks at any time in the city limits, except by written permission of the mayor," and also making it unlawful to keep, store or offer for sale such explosives.

There is one exception to the latter ordinance in allowing wholesale dealers to keep fireworks for out of town sales.

These two ordinances are the result of continued agitation and cultivation of public sentiment until as stated above they were passed without any opposition whatever.

It is believed that the second, making it unlawful to keep, store or offer for sale the explosives, will be the most effectual. It has been tried before to forbid their use, and restrict them in various ways, but as long as the shops were allowed to carry them in stock and sell them without restriction, it was manifestly impractical to carry out anything like effectual measures.

Heretofore it has been entirely at the whim of the mayor whether there should be any restraint or unlimited license. The tendency toward the latter in the last few years has finally helped to bring about the present wholesome measures.

It may seem untimely to discuss the subject now, but on the contrary, this is just the time and season to discuss it. If they had waited until the spring in Columbus they would have found that all the large dealers had laid in their supplies or placed their orders, and there would be determined opposition in the council—and we know to our cost that whenever "good business" or "vested interests" are threatened, the good of the community is generally a secondary matter.

Now, therefore, is the accepted time to prevent trouble next July. Let those interested present the matter to the various cities and towns all over the state, and in the name of the innocents who yearly pay the toll of blindness, deformity, burns and deaths from tetanus demand proper restrictions on and safeguards from, the

highly dangerous explosives exploited so widely in recent years.

THE ETIOLOGY OF DIABETES.

The persistent study of the cause of diabetes, while apparently like the pursuit of an *ignis fatuus*, has in reality narrowed the field so that it would seem that the long sought goal must soon be achieved.

Investigators have from time to time announced discoveries which seemed to indicate the solution of the problem, only to find themselves mistaken, but each of these observations has been a long step in advance, just as each "farthest north" marked a mile stone pointing the way onward.

While recognized symptomatically since the beginning of the Christian era, and possibly before, the first really distinctive discovery was the recognition by Willis in the seventeenth century of the sweetish character of diabetic urine, which a century later was shown by Dobson to be due to the presence of sugar. About seventy-five years afterward Claude Bernard made his famous *pique* experiment, followed in thirty-five years by V. Mehring and Minkowski in the experimental production of apparently true diabetes by the removal of the pancreas.

From that time on the pancreas has been scrutinized and studied from almost every conceivable viewpoint. Numerous observers quickly established the fact that the ordinary pancreatic secretion played no role in the production of the disease and suggested the presence of an internal secretion as the active agent. Lepine and Martz, and Conheim, Jr., have obtained glycolytic ferment-like bodies from the substance of the pancreas; Herter found that adrenalin may cause a glycosuria apparently by overstimulating the pancreas, and Lusk and others noted a glycosuria from the use of phloridzin—all very significant facts in their way, but the work of Opie of about a decade ago in connection with the relation of

the Island of Langerhans to diabetes seems to point more clearly than any other hypothesis to the ultimate solution of the problem.

Many rejected Opie's theory because of the finding of cases of diabetes which failed to show at autopsy any demonstrable lesions of the pancreatic islands and lack of demonstrable secretion therefrom.

In such a complex process, however, as carbo-hydrate metabolism, it is quite conceivable that disturbances at different points and from different sources may result in the discordant result of glycosuria. Disease of the Islands of Langerhans may not be present in all cases of diabetes, but Opie's theory supplies the best working hypothesis at the present time available.

In the September number of the Johns Hopkins Hospital Bulletin, MacCallum presents a very interesting experiment which strengthens Opie's theory and brings out some new points of interest.

MacCallum ligated a goodly portion of the pancreas of a dog so that the ordinary secreting tissue would atrophy, while the remainder of the gland was sufficient to keep the animal in good condition; there was no glycosuria following. Seven months later a second operation was performed, the ligated portion of the pancreas was found atrophied as anticipated, the remainder, appearing quite normal, was removed. A temporary glycosuria occurred, disappearing in a few days. A month later a third operation was made and the atrophied remains of the gland were removed for examination.

This tissue was found to consist of atrophied pancreatic ducts, vessels, etc., and *hypertrophied* islands of Langerhans. After this operation a violent glycosuria manifested itself, which however diminished somewhat but to what extent this diminution would have extended is not known as the animal was killed before the significance of the decrease was remarked.

The result of MacCallum's experiment may be summed up as follows: Ligation through the pancreas causes atrophy of the ordinary secreting cells, but not of the cells forming the islands of Langerhans.

The latter are capable of preventing glycosuria after removal of the unligated part of the gland, but if subsequently removed, glycosuria appears at once. In these experiments the changes were brought about more or less gradually so that the diminishing glycosuria after total extirpation of all pancreatic tissue may indicate, according to MacCallum that there may be a compensatory power of other organs both in preventing glycosuria and the disturbed fat assimilation in diabetes.

EDITORIAL NOTES

MORTALITY STATISTICS NEXT YEAR.

Revised Version of Classification of Census to Go Into Effect.

Washington, D. C., October 11.—United States Census Director E. Dana Durand today promulgated new rules and instructions for the purpose of securing more complete and accurate transcripts of deaths occurring in the selected death registration states and cities of the United States. These transcripts are obtained every month by the Census Bureau from nearly all of the city and state registrars in the census death registration area, and they form the basis of the mortality statistics prepared by the Division of Vital Statistics, under Chief Statistician Cressy L. Wilbur.

This action is expected to result in the presentation of the most scientific and trustworthy mortality statistics ever compiled in connection with a decennial United States census, which affords the population bases for the 1910 death rates. In addition to this important step toward more reliable data, the new revised version of the classification of the causes of death, as adopted at the Paris conference for the second decennial revision of the international classification, will go into effect January 1 next in the census registration area. Supplementing these will be the use of the new United States standard death certificates, which it is believed the organized registration officials forming the vital statistic section of the American Public Health Association will adopt for the report of deaths, commencing January 1

next, at the Richmond (Va.) meeting, October 19 to 22, next.

In his communication to the state registrars, Director Durand states that in their work of co-operation it is of the greatest importance that there should be exact agreement between the number of deaths as compiled by the state officers and by the Census Bureau, at least with respect to the total number of deaths reported for each month in each state, county and city. Differences occur at present which are not creditable to American statistics. For the purpose of preventing such differences, a monthly shipment check list, showing the deaths by months and areas, has been prepared and will be supplied to each state registrar.

He asks transcribers to follow absolutely the instructions for copying and advises tests to ascertain correctness. Permanent transcribers are preferred because of the skill acquired. Local registrars should be compelled to make returns on time. No effective registration can exist when the central office permits tardiness. The credit of the state service must suffer, the Director states, from heedless and incompetent work, and the compensation paid for the returns is sufficient to entitle the government to thoroughly reliable transcripts, promptly transmitted, and containing all of the statistical data required to be registered under the state law.

To the city registrars the Director suggests they note the instructions to state registrars. He states that a city registrar should have in his hands the certificate of every death that occurs, with absolutely no exception, before any disposition is made of the body; hence there should be no occasion for certificates filed many days after the close of each month or year. The corrections should be obtained before the burial or removal permit is issued. No imperfect certificates or unsatisfactory statements of cause of death should be accepted. When overlooked, however, they may be corrected readily by special blank or telephone, and city returns should therefore be superior in quality and completeness.

In conclusion, the Director states that with the cordial co-operation of state and city registration officials, the value of the mortality statistics of the United States will be greatly improved. It is especially requested that every effort be made to carry out faithfully the recommendations for the remaining months of the present year, so that the entire returns for the year 1910, which are especially important because of the comparisons possible with the population data of the thirteenth census, may be in complete agreement for all of the states and cities of the United States. Special circulars of instructions will be issued rela-

tive to the reporting of occupations and causes of death. It is hoped that the new standard certificate, and the approved instructions, may be adopted by all of the registration states and cities, so that thoroughly capable returns may be instituted for the decade beginning January 1, 1910.

Dr. Wilbur, who was one of the American delegates at the second decennial revision, stated today that the opportunity of starting out with the use of the revised classification for the mortality statistics relating to the actual census year is of the greatest value. It is highly gratifying, he said, that the wishes of the United States for the advancement of the date of the international revision from 1910 to 1909 were acceded to by the French government and the other countries participating.

In accordance with a resolution of the international commission, an official version of the revised titles is to be prepared in each language represented. The English translation has been made by Dr. Wilbur, aided by the other American delegates and by Hon. G. W. Knibbs, commonwealth statistician of Australia. This will provide precisely the same tabular list for all English speaking countries that have adopted the international classification.

The active interest of the United States in the promotion of international uniformity was accorded a very graceful recognition in the bestowing of the vice-presidency of the international commission upon Dr. Wilbur, who was called upon to preside over one of the sessions.

The next revision will be called in 1919 and under the auspices of the French government, unless other provision is made. Dr. Wilbur said it is to be hoped, however, in view of the great advancement of American vital statistics and the important part this country has played in the extension of the international classification, that the third decennial revision will be called by the American government to meet at Washington.

THE ADVANTAGE OF THE FREE DISTRIBUTION OF DIPHTHERIA ANTITOXIN.

BURT R. RICKARDS, CHIEF OF LABORATORIES, OHIO STATE BOARD OF HEALTH.

Diphtheria antitoxin has been in use for so long and the statistics in its favor are so overwhelming that it would seem hardly necessary to preface this paper with figures showing its beneficent effect. The prejudice against its use which formerly existed to a limited extent in the medical profession and to a larger extent among the laity has mostly died out. When it first appeared, like all new discoveries, some were too enthusiastic, while others attributed to it ill ef-

fects, which in reality were due not to the antitoxin, but to the disease itself. Evidence has since accumulated to an extent where it is possible to give accurate judgment on its specific advantages and disadvantages. But two arguments against diphtheria antitoxin appear to have any foundation in basis of fact. The first consists in the appearance in a certain portion of cases of an urticaria or rash which for a short time may cause the patient intense discomfort. This objection has been overcome undoubtedly by the comparatively new Gibson precipitation method and the still newer heat method of isolating and concentrating the antitoxin properties from the other constituents of the blood. By either of these methods certain of the proteids associated in the blood with the antitoxin, but of no antitoxic value are precipitated and gotten rid of. That some one of these proteids was responsible for the urticaria or rash is demonstrated by the absence of the rash in cases where the concentrated antitoxin is used. The second and more serious trouble which in rare instances comes from the use of antitoxin is due to the fact that certain persons, noticeably those who have some respiratory trouble such as asthma are apt to show a hypersensitiveness to the serum, the phenomenon of anaphylaxis, as it is called. This should be taken into account by the physicians administering antitoxin, but it is no more argument against its use than is the fact that some people show an idiosyncrasy toward quinine, an argument against its use in the treatment of malaria. There is a very amusing statement one often hears made by people having a prejudice against antitoxin that they "wouldn't have the vile stuff injected into their bodies," when as a matter of fact the human body does itself produce antitoxin if given time enough, but too often it does not produce it quickly enough. Why is it that people will object to a clean, aseptic liquid injected beneath the skin and then drink with gusto milk containing more bacteria than sewage and filled with particles of cow dung and barnyard refuse?

In a period of eleven months commencing November 1, 1908, there have been distributed to local boards of health and counties under the supervision of the Ohio State Board of Health, about eighteen million units of antitoxin of which at least four million units have been used for indigent cases. This at the reduced price at which it is supplied has cost \$1600.00, or about \$46000.00 less than the market price. This antitoxin has been given to indigents only and has been paid for either by the local health board or the commissioners of the county in which the patient resided. The State Board of Health has acted simply as a distributor.

The Standard dictionary defines an indigent as one "destitute of property or lacking comfortable sustenance," while Webster adds the words "needy, poor, in want, necessitous." It is at once apparent that there is opportunity for differences of opinion to arise as to whether a given person is indigent or not. It is probable that the word will be strictly or loosely interpreted, to some extent at least, according to the state of finances of the local board or commission, and the personality of its members.

The Saving of Life by Antitoxin—With the

introduction of antitoxin the mortality from diphtheria according to Bayeau dropped from about 55 per cent, or over one out of two cases, to 16 per cent, these figures being based on a study of 230,000 cases. Other observers record even better results. In the six years prior to the introduction of antitoxin the death rate in the diphtheria ward of the Boston City Hospital averaged 43 per cent, while for the ten years succeeding its advent the death rate was 11.8 per cent. In 1904 the mortality fell to 9.5 per cent, and if the cases practically moribund on admission were eliminated the death rate would have been but 6.9 per cent. The results in private practice are much better than this because of the fact that many cases are not sent to the hospital until the disease is well advanced. In the same institute mentioned above, the percentage of deaths from intubations dropped from 82.5 per cent for the seven years previous to the use of antitoxin, to 41.4 per cent, or just one-half, for the nine years following its introduction. A most striking instance of the value of antitoxin is that reported by Baginsky in his monograph on "Die Serum Therapie die Diphtheriae," in which he records the immediate return from a death rate of 14 per cent to the high mortality rate of 45 per cent in a diphtheria hospital when the supply of antitoxin ran out for about two months. Many more figures could be given on this point, if necessary, but to those familiar with conditions prior to 1894 this is needless, while in the fifteen years which have elapsed since the use of antitoxin began nearly every one have seen instances when patients have practically been brought from the "valley of the shadow" by the injection of large doses.

Time of Administration a Factor in the Results Obtained—There is, however, a vast difference in the results obtained from diphtheria antitoxin according to the time at which it is given. If it is administered before the appearance of the membrane it will prevent its formation, but often the physicians are not called to see a case until the membrane has formed.

Welch* (pathologist of Johns Hopkins University and Hospital) in a paper written in 1895, says: "Both experiments on animals and clinical experience demonstrate that the earlier antitoxin serum is administered after the inception of the disease, the better are the chances of recovery. The evidence is conclusive that the superiority of serum treatment over all other methods is most strikingly manifested in the results of the cases in which the antitoxin is given not later than the third day of the disease. Although in many cases the treatment is beneficial where the antitoxin is administered in larger doses at a later period of the disease, the importance of beginning the treatment at the earliest possible date cannot be too strongly emphasized. It is this power to check the diphtheria process from the tonsils and pharynx into the bronchi which has impressed many observers in favor of the new treatment more forcibly than any other feature of their experience with its action. Behring's claim is that no death will occur from diphtheria if antitoxin is injected in sufficient dosage at the beginning of the disease and that the fatality will fall under

*Trans. Assoc. Amer. Phys., X-1895.

5 per cent if the treatment in proper manner is begun before the third day of the disease. I am not aware of the report of any fatal case of diphtheria treated by antitoxin within the first twenty-four hours after the beginning of the disease in which the duration was positively determined."

The above quotations are excerpts from an article published a little less than a year after the general introduction of the serum treatment. It is worthy of remark that practically every suggestion and statement made by Dr. Welch after an experience of a little less than one year following the general introduction of the serum treatment has since been overwhelmingly borne out in the fourteen years elapsing, as will be illustrated by the following statistics.

The Massachusetts State Board of Health has been making and distributing antitoxin free since 1894. Dr. Theobald Smith, in charge of their antitoxin laboratory, in his report for 1905, gives the following mortality rates on cases proved to be diphtheria by culture, arranged with relation to the day on which the antitoxin was administered. Day serum inoculated after first symptoms.

	No. of Cases.	Per cent Fatality.
First and second....	5915	6.2
Third	3418	8.8
Fourth	2181	12.4
Fifth	1133	15.3
Sixth and later....	1599	16.7

So far the writer may be said to have kept away from the actual subject of his paper. We now come to a consideration of the bearing which the figures and facts we have given on the difference between the *free* distribution of diphtheria antitoxin to every case of diphtheria, and its distribution to *indigents only* at a fixed cost to local boards of health or to county commissioners.

As we have already intimated the word *indigent* is open to several interpretations. Let us suppose that a physician is called to a case of diphtheria, the patient being the child of a man who is in that class of hard-working, self-respecting citizens who are on a small salary and who have a constant struggle to make both ends meet. Perhaps this man has been in debt since the birth of his child. Such a man would resent being called an indigent, yet he must accept the serum free or be compelled to purchase the same at the market price of \$2.00 per thousand units or \$7.50 for 5000 units. If the child appears to be only slightly ill, the father may feel inclined to wait until tomorrow on the chances that the child may be better and not need the serum, little realizing that it often takes but a few hours for the membrane to form and choke the trachea and bronchi and that if this is escaped the deadly toxins formed by the bacilli may cause the dreaded post-diphtheric paralysis, or permanent changes in the heart tissues, resulting sometimes in the sudden death of the patient when convalescence seems established. Yet who can blame this man for waiting if the case has a mild inception when he knows the cost of the serum may run \$5.00 to \$15.00, up to \$50.00 or \$75.00 if the case becomes serious. Would he have hesitated if the serum could have been obtained free without branding him as an indigent before his friends and neighbors?

Rosenau and Anderson in their article on "The Influence of Antitoxin on Post-Diphtheric Par-

alysis"* have shown that in cases treated on the first day of the disease post-diphtheric paralysis does not occur but that if the treatment is delayed until the second and third day that the paralysis may and often does appear with most distressing results. If the antitoxin was free it would often be used earlier in the disease and thus the paralytic symptoms in many cases would be avoided.

The diphtheria bacillus generates two soluble poisons, one called a toxin, the other a toxon, the former capable of producing acute death, the other responsible for the paralysis and also capable of causing death. These toxins cause actual chemical changes in the cells of the body, resulting, where death is escaped, in some cases in temporary, in other permanent injuries. If the antitoxin is given soon enough these harmful products are neutralized before they have time to work their harm. Furthermore, as the disease progresses, the lower becomes the vitality of the patient and the greater the chance for complications to arise through the entrance of other pathogenic or of pyogenic organisms on account of the irritated condition of the tissues. By an early injection of the serum, these complications are avoided.

Large Doses of Antitoxin are Often Necessary—Once the toxins are formed in any great amount large doses of antitoxin are necessary in order to successfully counteract their action. It appears to be the consensus of opinion among those having the most experience with diphtheria that the amount of antitoxin administered should be graded according to the condition of the patient. The initial curative dose in mild cases should be at least 3000 units, to be followed by more later if necessary. In acute laryngeal cases, 6,000, 9,000 and 15,000 units are not uncommon doses, while at the Boston City Hospital the house officers under Dr. McCollom are accustomed to giving 20,000 to 40,000 units in cases when the bronchi have become involved. Beneficial results are reported in the great majority of these cases and in not a single case has harm resulted to the patient as a result of the administration of such heroic doses. If antitoxin were given free to all cases there would be a greater inclination to use it in large doses where necessary. The great cost of such big doses (\$50.00 to \$75.00, market price) at present prohibits such use except by the families of the rich.

Antitoxin as a Preventive of Diphtheria—Beside its curative effect antitoxin acts as a preventive of infection if given in small doses to those who have been exposed to the disease. In the Childrens' Hospital in Boston it has been the practice since 1898 to immunize each child as it enters the hospital. Since this practice was adopted but one case has developed in this hospital and that case was the one in which the immunizing dose was overlooked. (Such a practice if immunization would be extremely expensive if the institution was obliged to purchase the serum at market rates instead of receiving it free.)

At the Girls' Industrial School at Delaware, there was used during the epidemic of diphtheria in 1907 and 1908, over \$900 worth of diphtheria antitoxin. The State Board of Health, if it

*Hygienic Laboratory Bulletin No. 38, U. S. P. H. & M. H. S.

manufactured antitoxin, would be in position to furnish such amounts free at short notice.

One of the greatest benefits which would arise from the distribution of free antitoxin by the State Board of Health would be its greatly increased use as a prophylactic or preventive of diphtheria. How much better it is to apply the ounce of prevention in diphtheria than the pound of cure. If a physician were called to treat a case of diphtheria in a family in moderate circumstances where there were several children who had been exposed to the disease, there would be no question about immunizing each and every one of the family if the serum could be obtained free. It is the lack of this precaution very often omitted because of the cost which is responsible for the start which many diphtheria epidemics get before the local health authorities wake up to the situation. Is there any more beneficent purpose to which the money of the state can be put than the prevention of contagious disease and the results that come therefrom? Cannot the state better afford to do this than it can to maintain institutions to care for children rendered helpless in some respect by the ravages of disease?

Antitoxin Should be Given in Every Case of Diphtheria—In probably 99 per cent of all deaths now resulting from diphtheria, or in other words all cases except those complicated by other contagious disease or organic troubles, the lives of these patients might have been saved by the prompt administration of antitoxin in sufficient doses. That more antitoxin would have been used in Ohio had it been free to all may readily be shown by a comparison with New York. The latter state outside of New York City, which manufactures its own antitoxin, had a population in 1900 of 3,254,690 and distributed free 36,000,000 units of diphtheria antitoxin during 1908. Ohio with a population of 4,157,544 in 1900, will have distributed in the year ending November 1, 1909, about 18,000,000 units, or only one-half as much, with a population of a million more. Owing to the lack of accurate vital statistics in Ohio up to the present year, we are unable to compare the mortality from diphtheria in this state as compared with Massachusetts, where the antitoxin is manufactured by the state and given free to all cases. Dr. Hug, health officer of Lorain, Ohio, in an able paper presented at your fourth conference, showed that the death rate from diphtheria in Massachusetts has diminished from 7.6 per 10,000 before free antitoxin, to 3.9 per 10,000 since it has been given free to every one. In New York City it has decreased from 14.1 per 10,000 to 5.5 since it was given free and in Philadelphia from 11.93 to 4.73.

During the eleven months just ended there have been used in Ohio 1426 doses, or 3,000,000 units of antitoxin at a cost to local boards of health and counties of about \$1600.00, or about 42 cents per 1000 units. Massachusetts made and distributed free in twelve months (1907-8) 120,000 1000 units doses at a cost of about 10 cents per 1000 units. I do not claim, however, that Ohio could when first starting, do as well as this, for the Massachusetts antitoxin laboratory has been in operation sixteen years and by a process of selection and the survival of the fittest has now horses which are most excellent producers. Moreover, Massachusetts is not making to any

great extent the more costly concentrated antitoxin.

It is evident that notwithstanding the fact that the cost of the serum at present is borne in the first place by the local boards of health and counties it is ultimately met by the citizens of the state and might better be borne by the whole state at a lesser cost than be borne by the locality in which disease happens to be prevalent, often at a cost that the locality can ill afford to bear. By placing the cost of the production and distribution on the larger body politic, we not only relieve the small community of a heavy burden, but place this specific remedy within the reach of all and at a comparatively insignificant cost to the state, relieve the individual citizen from the tremendous burden incidental to protracted sickness and quarantine, whether it be in the form of loss of freedom, loss of wages, loss of services, death or what not.

The arguments commonly advanced against the production of anti-toxin by the state and its distribution free to all ill with the disease are that it tends towards socialism and that there is no more reason for the distribution of free autitoxin than there is for the state to furnish its citizens with calomel or ether, or any drug commonly used in sickness. There is, however, just this difference—to the every-day ills to which flesh is heir the life of one person only is involved and one family only is intended. In a contagious disease the whole community is interested. It is no more socialism to claim that the state should take steps to restrict and exterminate the contagious disease than it is for the city and state to maintain police and courts to prevent and to check crime and persons to punish the guilty. The states does not hesitate to take all necessary steps to apprehend a murderer, neither should it hesitate to take the necessary steps to check the spread of these microscopic murderers.

Antitoxin is more than a specific cure—by shortening the period of illness and the length of time that the bacilli are present in the throat of a patient it shortens by just so much the time during which the patient is capable of infecting others.

To Summarize—

1. Antitoxin is a specific remedy for diphtheria and a preventive if given to exposed persons, infected, but not yet ill.

2. Antitoxin should be given promptly at the earliest possible moment.

3. If given in the first day it will prevent the formation of membrane, and the necessity for intubations and tracheotomies and will also prevent post-diphtheric paralysis and other disastrous sequelae.

4. Where the disease has progressed rapidly or where delay has occurred in calling a physician, very large doses are necessary to save the patient.

5. Deaths from diphtheria are needless and could be prevented entirely if antoxin could always be given in the early stages of the disease.

6. If antitoxin manufactured by the state at a minimum cost and given free to all cases of diphtheria, this would result:

- a. In its being given earlier in the disease.
- b. In its being used in a greater proportion of cases.
3. In its being administered in larger doses.

d. It its being given as a prophylactic to a greater portion of those exposed to the disease.

e. In taking the burden of cost off of local boards of health and counties and placing it on the state as a whole.

f. Finally in a lowered total cost to the citizens of the state antitoxin and a tremendously lowered cost in lives saved and a lowered number of organic troubles which are a natural sequel to diphtheria.

MINUTES OF THE MEETING OF THE STATE ASSOCIATION OF SEC- RETARIES.

[Received too late for publication last month.]

A meeting of the State Association of Secretaries was held at the A. I. U. Building, Columbus, on September 22. The meeting was called to order at 9 a. m. by the chairman, J. H. Seiler, of Akron. Few members being present, Dr. Snyder, of Toledo, spoke on the possibilities and probabilities of having a state defense league similar in character to the defense leagues existing in some of the cities throughout the state. The state league is to be maintained by the individual payment of \$1 per member to the State Society.

It was moved by Dr. Zininger that Dr. Tenney be appointed secretary of the meeting. Seconded and carried.

A general discussion then followed upon the advisability of the defense league, being participated in by Drs. McClellan, Upham, Reynolds and Weitz.

The first paper of the program was, "The Dignity of the County Medical Society," by Dana O. Weeks, of Marion. The doctor thought that possibly he was called upon to write the paper because of the hereditary taint that was present in his body, his grandfather having journeyed to Columbus in the year 1850 to attend one of the first meetings of the State Medical Association, it taking him two days to come and two days to return from Fostoria, to be present at that meeting.

A discussion followed this paper by Dr. Reynolds of Defiance, Dr. Wiseman of Zanesville and Dr. Upham of Columbus.

The second paper was, "The Place, Purpose and Advantages of the District Society," read by R. H. Grube, of Xenia. He spoke of the direct relationship between the district society, the county society and the state society. Inasmuch as the county society is small, the state society large, there must be some intermediary host to keep up the life chain of the county society. The paper was discussed by Dr. Wright of Newark and Dr. Weitz of Montpelier.

Further discussion was participated in by Dr. Snyder of Toledo and Dr. McClelland of Zanesville.

"The Results of a Circular Letter Sent to Every County Secretary by the President of the State Society," was read by W. H. Snyder, in which he showed very clearly the good, bad and indifferent conditions existing in the various state societies. Some of his letters asking the present status of the different county societies were answered promptly, intelligently and to the point; others sent an answer which clearly portrayed the character of the work being done in their county society. Many others did not answer at all, which showed that they and their county society were "dead ones."

There are eighty-eight counties in the state. There were eighty-seven letters sent out. There were thirty-three answers received; from fifty-four counties there was no response at all.

The meeting then adjourned for luncheon.

The afternoon session opened at 1:30. The first paper was "On Program Making," by Carrie Chase Davis, of Sandusky, being read and freely discussed. This was followed by Dr. Wiseman's paper on "What a Secretary Can Do to Make a Society Prosperous." Discussion of the paper was by Drs. McClellan, Zininger and Weitz.

The next paper was by Fred Fletcher, of Columbus, on "The State Convention: A Summing Up of the Best in the County Societies During the Year." Dr. Fletcher spoke of the success of many of the county societies being due to the fact that a regular systematic course of study was pursued. The societies were divided into sections, one meeting held each week and one general meeting a month. In these weekly meetings one night was given to internal medicine, one to surgery, and the eye, ear, nose and throat men having an evening. In this way much ground was covered during the year and a valuable post-graduate course was given to the members of the society. Men were selected to prepare and write papers, who would give the subjects thorough thought and careful study, so that when the papers were presented something was said which would be of help to the other, besides a vast amount of good done to the individual preparing the paper. In this way members were attracted to the meetings, took part in the discussions and went away feeling that they had obtained some help in perhaps what had been a difficult case to them. These systematic courses of study can be carried out in the smaller county societies as successfully as in the various academies of medicine. Occasionally a man of note may be called to present the particular line of

work that he may be carrying out. This form of meeting always attracts a larger audience, because the inactive members feel sure that they are going to learn something. This is true, in a measure, but it is also true that they could learn something at each meeting where the local talent presents the paper, provided that member gives the best that is in himself for the preparation of his work. The success of the county society does not depend upon the large things, the banquets, the smokers nor the good times anticipated. These, of course, are all features which are highly enjoyed, but the great success depends upon the conscientious work each individual member may do, and this individual co-operating his fellow members to get the best out of each other that can possibly be attained.

The final paper, by J. H. J. Upham, on "Summum Bonum," was highly enjoyed by all present.

It was moved by Dr. Grube and seconded that another meeting be called later in the year, the time and place to be announced later.

The following is a list of the members present: Chairman State Association of Secretaries J. H. Seiler, Akron; Secretary pro tem. C. F. Tenney, Toledo; President of the State Society W. H. Snyder, Toledo; R. H. Grube, Xenia; R. L. Kunkle, Piqua; E. A. Yates, Sidney; C. D. McCoy, Kenton; D. O. Weeks, Marion; J. J. Reynolds, Defiance; J. A. Weitz, Montpelier; C. C. Davis, Sandusky; A. Delaplane, South Solon; A. W. Holman, Circleville; W. M. McClellan, Ashland; S. M. McCurdy, Youngstown; G. F. Zinniger, Canton; J. S. McClellan, Bellaire; W. E. Wright, Newark; O. M. Wiseman, Zanesville; Fred Fletcher, Columbus; R. E. Bower, Chillicothe; J. H. J. Upham, Secretary State Medical Association, Columbus.

ANNOUNCEMENT OF EYE, EAR, NOSE AND THROAT SECTION.

We would draw the attention of those interested in the above section to the importance of notifying the secretary if desiring a place on the program for the next meeting at Toledo in May, 1910.

It is desired to even surpass the Cincinnati meeting; one of the leading oculists of the county has been secured as the guest of the Section to deliver the annual address on the subject "Concerning Some of the Ocular Manifestations of Carda-Vascular and Renal Diseases."

The chairman of the Section, Dr. Green, will give a resumé of Dr. Smith's work in India, and his experiences while visiting him this year.

Already applications for space on the program are coming in. Therefore write to the secretary at once. Short crisp papers based on case reports are suggested, and the reporting of any original scientific investigations would be especially welcome.

Address all communications to Wade Thrasher, M. D., The Groton, Cincinnati.

CORRESPONDENCE

To the Editor: Your timely editorial, "Medical Defense," has my heartiest commendation, and I hope you will keep up advocating a State Medical Defense Association until we meet again at Toledo. The benefits derived from such an organization are many. It will decrease the cost of physicians' liability policy holders; it will help to build up a great state organization, which will be a greater factor than heretofore in the eyes of our lawmakers, the public and the press. Why such an organization has not been thought of and brought to realization long ago is beyond reason and comprehension. I am glad that THE JOURNAL has taken this matter up, and it will be given due credit for looking after the great needs and the weak links of our organization. This alone will make the existence of THE JOURNAL not only a benefit, but a dire necessity to our state association. I can see no valid argument for opposing such a movement, especially when the Medical Defense Union of London, established in 1885, and other defense societies here in the United States, as pointed out by Willard J. Stone, of Toledo, have already proven a success. I, for one, would go a step further and would make it the same as the Medical Defense Union of London, and national in scope, with headquarters in the office of the American Medical Association.

M. COPLAN, M. D.

3317 Lorain Ave., Cleveland.

Old people should be allowed to sit up or get out of bed as soon after operation as possible in order to avoid post-operative lung complications.—Surgical Suggestions.

The silver-fork deformity is by no means necessary to the diagnosis of Colles' fracture.—Surgical Suggestions.

The sensation of a foreign body in the eye may be provoked by the presence of a small tarsal tumor.

MEDICAL ECONOMICS

By J. W. CLEMMER, M. D.

THE CURE OF TWO MILLION SICK.

The discovery of the hook-worm disease by C. W. Stiles, Chief of the Division of Zoology of the United States Public Health and Marine Hospital Service, as related in the *World's Work* for May, is another incident in the wonderful work of preventive medicine. The hook-worm is "hardly half an inch long and no bigger around than an ordinary hair pin." In 1896 Dr. Stiles lectured on this parasite before an audience of physicians. His claims that people in the southern states were afflicted with hook-worm disease were not credited. The doctor and his students continued to study the subject. Previous to 1902 the doctor's duty was to study parasites infecting animals. This experience was of value, as it taught him that infected animals came from sandy soil. Many regions in the south, over-cast with sand hills and pine woods, were found populated by a disease ridden people afflicted with the hook-worm. These people are known as "crackers," "sand-hillers," "dirt-eaters," etc. They are ignorant, lazy, anemic, dropsical, melancholic, with lusterless hair and eyes, yellow skin, with children under-developed and undesired; a miserable sickly race, from pure Anglo-Saxon stock.

The embryonic parasites, abounding in the sandy, warm soil, penetrate the skin of the bare footed and reach the blood stream and intestines.

Health boards of the southern states are doing something, but not enough to eradicate the disease. It is said that Epsom salts and thymol will cure individual cases. Means of prevention are as simple as the curative agents, yet Dr. Stiles declares it will take twenty years and two million dollars to eradicate the disease. The moral, social and industrial loss due to this disease is enormous. This is another instance to show the value and necessity of a national health department to protect the public health interests.

Since the above was written John D. Rockefeller has contributed a million dollars toward the relief of 2,000,000 sufferers from hook-worm disease. The government should unite with philanthropy in this humane work.

The Columbus Academy of Medicine did not adjourn its meeting October 4, as advertised by the presumptive press agent of the Lydston meeting. Despite the free banquet and oratorial fire-

works, as counter attractions, the Academy enjoyed the usual attendance. There is a reason; the Academy belongs to the organized profession in alliance with the State and National Associations.

Physicians are being prosecuted for furnishing whiskey and cocaine to habitués of these drugs under cover of prescriptions. It is submitted that any man who will prostitute professional standing to debauch the public health and morals should suffer a revocation of license to practice medicine. The State Medical Board should exercise this authority.

Some physicians, actuated by motives of personal gain, to the neglect of professional ethics, commit blunders in a way to compromise the profession with charlatanry. They do not intend such compromise or foresee the result of such conduct until too late. Primarily the fault lies with medical colleges and state boards in not qualifying the student body in matters of professional interest aside from scientific pursuits. Medical organization rests upon two factors, and cannot progress gracefully on one, any more than a man can walk on one leg.

J. J. Boone, of Mt. Victory, in a recent court decision, failed to exempt himself from trial for violating the vital statistics act. As already predicted, in this trial, he will determine for himself and his sympathizers that the state bases a license to practice medicine upon certain conditions to maintain public health interests, in reporting birth, deaths and cases of communicable diseases, maintaining quarantine, etc., without pay. Like service is exacted of other citizens whose occupations stand in relation to the public health. The licenses of the milk and meat dealers and other food venders are issued on the condition that certain rules of conduct are followed.

THE AMERICAN MEDICAL ASSOCIATION, ITS WORK AND ITS ENEMIES.

The Ohio Delegation in the House of Delegates of the A. M. A. at the June meeting endorsed its policy and activities as published in the transactions. The work of the nineteen com-

mittees, of the board of trustees and of the executive department, as shown by their reports, carried on in the several branches affecting the interests of the profession, displayed untiring zeal and a business capacity unsurpassed by any other great corporation. The volume of business in organization work and in scientific attainments under the management of the House of Delegates requires and exhibits the tact and talent equal to those of any other national organization or a great railway system. Any one who will study the history of the Association in an impartial manner will find that the prosperity attending the present policy and management since 1902 is unequalled by any other great system or organization.

Of the 150 members of the House of Delegates, many of whom have given special and continuous attention to the interests of the Association, not one withheld his endorsement of the work of the board of trustees in its management of the business affairs, nor withheld his vote in the reelection of George Simmons as Secretary and Editor.

There is a reason for these endorsements. The property and publishing plant are managed in a manner to best meet the demands of a great and growing association. The Journal of the Association has no equal. The list of publications is constantly growing. The Archives of Internal Medicine, the National Directory, bi-monthly bulletins, a digest of new remedies, besides an increasing collection of data of interests to state boards, medical societies, colleges, legislative committees and the profession in general. The facilities have been amplified every few years. It was found necessary this year to increase the capacity of the publishing plant by a large appropriation for a new building.

All this is in the happy contrast with the non-progressive methods prior to the reorganization of the association. Membership has been doubled. The combined strength of component state associations is 67,362. The profession has been organized into an active, efficient body. It has learned its duties and its rights.

Through the councils of the Association it has been safe guarded against the frauds and imposition of trades people. The profession has become a factor in matters of politics and sociology. Its influence is felt in state and national legislation. The medical interests of the people are made an essential factor in professional organization.

The work of the National Association has been directed along many channels. Note the progress in medical education by improvements forced upon medical colleges; note the public instruction

on medical subjects by publication and a special lecturer; note the splendid work of the Council on Pharmacy and Chemistry, a work of far-reaching importance both to the profession and the laity; note the benefits that accrue to the efforts being directed to such subjects as patents and trade marks, regulation of membership in component societies, drug reform, defense of medical research, elaboration of ethical principles, etc.

One of the most important labors conducted by the A. M. A., that of national legislation for the public health defense, is altruistic, pure and simple, and under the leadership of our own Dr. C. A. L. Reed. The character of this work is exemplified by his activities and address before the National Association of State Food and Dairy Commissioners at its St. Louis meeting. He stood like a stone wall on the benzoate of soda question, in defense of our parent organization and the public, against the brazen coalition of manufacturing and political interests.

In brief, all the officers and committees, bureaus and councils representing the government of the A. M. A. are accomplishing a stupendous work for the good of American medicine. The published transactions of the House of Delegates are convincing of the scientific worth and moral integrity of this work.

The opposition of charlatans, healers and moneyed interests naturally attends the labor of the A. M. A. in the advancement of professional and public health interests. The most perfect organizations are possessed. It is to be expected that the A. M. A. will always have its enemies in and out of the profession. It is also expected that members of the organized profession will show their alliance and their allegiance to the parent organization. Members of other organizations are loyal to the principles and precepts of official regulation. Representation of component societies is provided to correct misrule. Any county society has an influence in the governing body of the A. M. A. Each State Association is represented by chosen delegates. These are the sources of our strength (or weakness) as a national organization. Progress or failure is compassed by the authority vested in state representation. Reformation of "despotism" must issue from the same authority.

Any one from the housetops of the profession may do much to create misunderstanding and confusion among the rank and file of a large membership. The question with the profession is whether it will give ear to such representation or trust its selected delegates. The component state associations should hold their delegates in the na-

tional body responsible for the government of that body. If definite results or changes are desired in the affairs of the A. M. A., the State Association should so instruct its delegates. The recommendations for such changes would imply a careful study of the entire subject. Unbiased investigation, however rigid, can only result in good. Any suggestions for improvement of the National Association which the present management or the House of Delegates may have overlooked, its members would gladly consider. On the other hand this body could not consider the

grievances and complaints put in motion by any insurgents.

The support of the A. M. A. by its large membership, if loyal to its best interests and continued progress, must adopt constructive and not destructive means. The National Association will continue to be what representatives of component organizations make it and not what its enemies are striving to make it. Progress of American Medicine as represented by the A. M. A., in the future as in the past, will be an index to its work. It needs no defense; it simply needs to be understood.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

THE CAMPAIGN AGAINST CANCER.

Wainwright (Penn. Med. Jour., Aug. 1909, p. 924,) urges general education on the subject of cancer. The public and the profession must realize that there is a time when cancer can be cured by surgery. He properly says:

"People who die from cancer do not die because death was inevitable but simply because they have been left in ignorance as to how death might have been avoided. We must remember that it is the fault of the patient or the family physician and not the fault of the cancer or of surgery.

"Every man or woman over forty should know that a lump in the breast, a sore in the mouth, an intractable sore on the skin, and an irregular vaginal hemorrhage, severe and intractable digestive trouble, etc., is more probably cancer than anything else," and every man and woman should know that if it is a cancer it is at first entirely local, and an operation done at once will be of practically no danger and will probably entirely cure it."

In conclusion, he says: "I wish to sum up the points of the cancer question as certain axioms (mostly not my own) which I wish were as well known to the people as the fact that $2+2=4$.

"1. Cancer, for a short time at least, is nearly always an entirely curable disease.

"2. After a few months' delay, cancer is very often absolutely incurable by any measure whatever.

"3. In persons over thirty-five or forty, a small lump anywhere, a sore or ulcer that will not heal, irregular uterine hemorrhages, intractable digestive symptoms, are more likely to be indications of cancer than anything else. Over forty, they are almost surely so.

"4. Pain and poor health have never anything to do with cancer, except when it is in its hopeless stages.

"5. In the present state of our knowledge the only method of primary treatment should be removal with a knife."

TO COUNTERACT TOXIC EFFECTS OF COCAINE.

Rugh says (Penn. Med. Jour., Aug., 1909, p. 890): "As to the toxicity of cocaine, if one or two minims of a 1 per cent. solution of nitroglycerine be injected with it or given by mouth, toxic symptoms can be entirely prevented or controlled. A more striking antagonism between drugs does not exist than between these two."

[If the patient is given one-eighth to one-fourth grain of morphia one-half hour before the operation, unpleasant symptoms from absorption of cocaine are usually avoided.—Ed.]

TETANUS AND ITS TREATMENT.

Hessert gives a very complete discussion of this subject in the *Journal of Surgery, Gynecology and Obstetrics* for August, 1909, the review of which in the *Boston Medical and Surgical Journal* is as follows:

"Hessert's paper on tetanus and its treatment is most thorough and logical. It sums up very concisely and accurately the latest knowledge on this very baffling disease. Important points in his paper are the following: The toxin, as shown by Meyer and Ransom, enters the end of the motor neuron, where it is not provided with a myelin sheath. The myelin sheath offers an absolutely

impervious insulation, impenetrable alike both by the toxin and antitoxin. The motor nerves, not the sensory, are the conductors of toxin to the cord and medulla. Nor does it pass up the lymph spaces about the nerve, but always by way of the axis cylinders. A certain portion of the toxin is taken up by the lymph and blood from the wound, and thus gets into the general circulation. The toxin enters into some sort of a firm combination with the nerve cells, and there is no remedy able to break it up or neutralize it. It can be eliminated only gradually by the metabolic changes of the body. Hence the principles of treatment are: (1) Remove the source of further toxin supply by thorough removal of the infected area; (2) neutralize the toxin contained in the tissue juices by massive injections of antitoxin subcutaneously; (3) employ some remedy to allay the reflex excitability of the cord; (4) nourish and stimulate the patient and tide him along till he shall have eliminated the toxin from his system. The antitoxin has been beyond a doubt proven to be most valuable as a prophylactic measure. In the treatment of the local wound, avoid cautery, dusting powders or anything that will act as a plug and favor anaerobic conditions. Rubber tissue drains are preferable. Hydrogen peroxide is rational. Balsam of Peru has been proven by the Japanese in the Russo-Japanese war to exert a slight specific action on the tetanus bacilli, and should be used in dressings. Hessert believes in the careful use of magnesium sulphate intraspinally, and thinks our greatest success in treating the spasm lies in this method. He advises for dosage 1 ccm. of a 25 per cent. sterile solution for every twenty pounds body weight in men, and for women and children 1 ccm. for every twenty-five pounds body weight. This is considered safe. None of the many special methods of injecting the antitoxin has proven of value, and some are too dangerous for general use. Subcutaneous injections of the serum in massive doses, 1500 to 3000 units, will yield as good, if not better, results."

SQUINT IN INFANTS.

Holzapfel (editorial, Archives Pediatrics, Sept., 1909), rightly urges "the important of early diagnosis and early treatment of squint in infants. By early treatment of this condition in infants not only will operation be avoided in the majority of cases, but better vision will be obtained, because opportunities will be afforded for the proper development of motility, visual acuity, etc.

"During the early months of life, before the faculty of fusion has developed, convergence for a few moments may be observed during gastric or

other disturbances. * * * An eye may occasionally converge for a minute or two when a child is old enough to walk. * * * If, however, a child crosses his eyes for many minutes, or the deviation is always manifested in the same eye, the case is one of true squint and demands immediate attention.

"In regard to the treatment of squint in infants, it is of paramount importance to begin treatment when symptoms first appear, regardless of age. The first duty of the ophthalmologist is to determine under mydriasis the presence or absence of any error of refraction. Modern methods enable him to determine the refraction of an eye objectively with a remarkable degree of accuracy. If any error of refraction exists, glasses should be prescribed accordingly. After the eyes have been put into proper focus with glasses, a reasonable time, depending upon the age of the patient, should be allowed for development. If, after a few months, any deviation remains, the child should be trained to fuse images and thus retain binocular vision by means of the various methods of ocular gymnastics familiar to ophthalmologists. If the above method is followed, the vision in the squinting eye will have the same opportunity for development as that of the non-squinting eye, and in most cases operation can be avoided. Should squint have existed a few years or more, the prognosis in the squinting eye would be unfavorable for vision, although the cosmetic effect can be assured in all cases by means of proper operative interference and suitable glasses."

TREATMENT FOR INGROWING TOENAIL.

W. Stoeckel, Marburg, describes the operation as follows: Twenty-four hours previous to the time of operation the foot and toes are thoroughly scrubbed with tincture of green soap, after which the nail is trimmed straight across its free border and the surface exposed and thoroughly cleaned. Tincture of iodine is now applied around the entire margin of the nail and a 1-2000 bichlorid of mercury dressing applied. At the time of operation the parts are again scrubbed thoroughly. Hemorrhage is controlled by a rubber band around the base of the toe, and local anesthesia obtained by injection of a weak cocaine solution. With a sharp scalpel the nail is split down its center and to the bone; the next step is the freeing of the matrix and lateral border of the nail by an incision down to the nail almost three-sixteenths of an inch from the lateral border extending back beyond the base. The scalpel is carried along the outer border, which is lifted up, and the scalpel is directed close to the bone

under the matrix, to within one-quarter of an inch of the median line. The freed lateral border is then elevated with the handle of the scalpel and the matrix beneath is removed and the sides elevated are allowed to rest on the healthy tissues. A strip of gauze is inserted underneath the edge and a wet dressing of magnesium sulphate applied. For a few days the foot should not be used. The advantages of the operation are simplicity, radical cure, minimum tissue destruction and decreased suffering from pain, rapid restoration of the normal condition of the tissues and short period of convalescence.—*New York Medical Journal*, February 20, 1909.

[As indicated above, there is no need for a general anesthetic in order to do a radical cure for ingrowing toenail. Often the only relief needed is to remove about one-third of the nail, for when the new nail is formed the old inflammation has gone and the nail comes in without gouging into the flesh. Cocaine infiltration under the nail and at the base will allow the nail to be split with a sharp pointed scissors and the offending portion extracted in the firm grasp of a hemostatic forceps. Where this simple removal of the nail, without destroying the matrix, is done, there is much less soreness afterwards than when the matrix is also destroyed.—Ed.]

TREATMENT OF TUBERCULOSIS IN THOSE WHO WORK INDOORS.

Willett (*Wisconsin Med. Jour.*, Aug., 1909), while not recommending that patients keep at work while under treatment, still realizes that often they must work, or will work. He reports his method as follows:

"When the patient first comes to me, the first thing I do is to convince myself that he is tuberculous, and then tell him so directly, explaining to him how he probably contracted the disease and how he can give it to those around him. I try to get him interested in the disease from as impersonal standpoint as possible. And not until I have gained his interest and have shown him how others are cured of the disease do I fix any rules for him. * * *

"After gaining the patient's interest and being assured of his co-operation, I have him get a clinical thermometer and teach him how to use it. I have him record his temperature every two hours for a few days and report at my office each evening. If he is running an appreciable amount of fever, I try to have him take a few days from his work to go to bed. Usually he will not do this, but often you can get him to stay in bed

Saturday, Sunday and Monday, thus losing but a day and a half and gaining three days in succession. I advise him to live as near to the shops as he can, if it is the husband who is sick, avoiding, however, the congested part of the town. In the summer time I ask him to take his family and live in a shack at the edges of the fields near the shops. This is to avoid the long walks going to and from work.

"After that I give these rules:

"1. You must sleep out of doors altogether, either on the porch or in a board shack.

"2. You must go to bed as soon as you get home—5:30 p. m.—and not get up until after breakfast at 6:30 a. m. Stay in bed Saturday afternoon, Sunday and all holidays.

"3. Never hurry at anything you do. Get up in time to walk slowly to work, but not to be there ahead of time.

"4. Spit in a paper napkin and then burn it up, and never cough without covering your mouth with your napkin.

"5. When the weather permits, take a short cold rub bath when you get up.

"6. Your clothes must always be loose. They are warmer that way.

"7. Keep your bowels free.

"8. Drink no liquor, get not more than one small can of beer daily and stop chewing tobacco. Do not smoke more than three pipefuls daily.

"9. You must eat every three hours as follows: At 6, 9 and 12 a. m.; 3, 6 and 9 p. m. (I give the patients as nearly as possible a menu to suit their individual tastes, and at the same time conforming to what is an ideal tuberculosis diet, except that I believe I crowd the sweets more than is usually done.)

"10. You must not take any medicine whatever except what I give you.

"11. Do not come to see me, but write down anything you wish to ask about any of these rules you cannot keep, and let me know Wednesday or Saturday when I call to see you.

"Results. The results have not been in every way satisfactory. Most of the patients have done very well up to a certain point. Then many of them get tired of the monotonous routine, and it is only by the hardest urging that you can get them to continue long enough to be positive of permanent results. The patients who have received the least benefit are molders' helpers, and this is on account of their extremely arduous duties. However, I think the results well pay for the efforts made for these unfortunate people."

BOOK REVIEWS

A TEXT-BOOK OF SURGICAL DIAGNOSIS. For students and practitioners. By Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania. Very handsome octavo of 764 pages, with 445 engravings, largely original, and 18 full-page plates. Cloth, \$5.50, net. Lea & Febiger, Philadelphia and New York.

In this era when so many new books, many of doubtful value, come to the reviewers table, it is refreshing to review a work such as this author and his assistants have placed before the profession.

This book is valuable to the general practitioner as well as the surgeon and should find a place upon the shelves of all careful medical men. Since the burden of early diagnosis is necessarily placed upon the general practitioner he should have at hand a clear, concise work upon surgical diagnosis, and the reviewer can recommend this book to him.

The chapter on laboratory diagnosis by Dr. Longcope is not a long treatise, but is of sufficient length to cover the ground in a work of this kind.

The article on X-rays in surgical diagnosis, by Dr. Pancoast, is exceptionally well written and the illustrations of the surgical conditions affecting the bones and joints are the finest ever seen by the reviewer. This chapter alone would commend the book.

The section of inflammation is not nearly so complete as found in certain other essays. The same might also be said of the chapter on complications and sequelae of trauma and that part of the text devoted to the post-operative complications of celiotomy is very poor in that it is too superficially glossed over. The chapter on tumors is also very incomplete.

That part of the treatise devoted to the discussion of skin symptoms contains all that is necessary and the illustrations are very clear.

One of the really good sections of the book is the chapter on diseases of the nervous system, by Weisenburg. It is most complete and each condition is minutely discussed in a systematic manner. His treatment of such an important subject as traumatic neurosis is disappointing, in that he glosses over the whole subject in a few words.

The chapters on the head, neck and face are splendidly written and every condition is considered in full. So much cannot be said of the section devoted to the diseases of the spinal cord.

A most interesting chapter is the one devoted to the upper extremity. The illustrations are fine and the chapter appeals to the reviewer as worth the price of the whole book. The discussions of the diseases of the thorax is the poor part of this chapter.

This work is well put together and the index is good. The publisher has done well in that the paper is good and the plates are well made.

The reviewer can recommend this book as a useful addition to the library of general practitioners as well as surgeons.

A TEXT-BOOK ON THE PRINCIPLES AND PRACTICE OF SURGERY. By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full-page plates. Cloth, \$5.00 net; leather, \$6.00 net. Lea & Febiger, Philadelphia and New York, 1909.

In making a revision of this work the author has added two hundred pages, yet has managed to keep the book in a position midway between the brief manuals and the more voluminous surgical treatises.

The work covers in a most practical manner the usual surgical subjects, and, too, contains many of the newer things in surgery. The text is illustrated with 415 engravings.

The following chapters are commendable: Surgical technique, tumors, hernia, fractures and dislocations, diseases of the bone, injury and diseases of the thorax, pleura and lung.

The technique of blood transfusion; Fowler's method of decortication of the lung for empyema; Whitman's method of treating fractures of the upper end of the femur; rectal anesthesia; delayed chloroform poisoning; Young's operation for carcinoma of the prostate; Marjolin's ulcer; Lorenz's method in the treatment of congenital dislocation of the hip; X-ray dermatitis; Matas' method of radically treating aneurisms; Dowd's technique in dealing with tuberculous lymph nodes; Cushing's temporal decompression operation for cerebral tumors; Edebohl's operation for nephritis; Crile's pneumatic suit for the prevention of surgical shock; the Mayo operation for umbilical hernia are a few of the many subjects of surgical interest that are discussed.

PRACTICAL DIETETICS, WITH SPECIAL REFERENCE TO DIET IN DISEASES. By W. Gilman Thompson, M. D., Professor of Medicine in the Cornell University Medical College in New York City; Visiting Physician to the Presbyterian and Bellevue Hospitals. Fourth edition, illustrated, enlarged and completely rewritten. New York and London. D. Appleton & Co., 1909.

The former editions of this very practical work are so well known and have been so well received that the present edition needs no introduction. The work has been thoroughly revised, in fact a large part of it has been rewritten.

Attention has been given to the researches of the Department of Agriculture and the various experiment stations upon food analysis calorimetry computations and allied subjects as well as the process of food metabolism.

A considerable part of the work is devoted to the composition of food and food preparation and the subject is presented in a manner which makes it of very great practical value.

Part III, devoted to the consideration of cooking, food preparation and preservation, gives a wealth of information upon these subjects, much of which is of inestimable value to the physician.

The very important subject, "Administration of Food for the Sick," is given most pains-taking attention. The author discusses in detail the various methods of feeding and gives practical suggestions as to the indication for their use and directions for using to the best advantage.

Part VIII on "Diet in Disease," has perhaps the greatest practical value to the medical practitioner. A dietary is carefully outlined for each disease separately and this supplies much needed information which is not found in the usual works on treatment. The most careful attention is given to detail and yet the directions are simple and easily followed. This section presents the accepted method of dieting for each disease or condition which is in any way amenable to the influence of diet.

The work is well supplied with illustrations, a considerable number of new ones having been added to this edition.

WHAT SHALL WE EAT? By Alfred Andrews. Third edition revised. The Health Culture Co., Passaic, N. J., U. S. A.

This little work is made up largely of quotations from various sources, charts of food stuffs showing digestibility, nutritive value, heat production, etc., with pertinent observations by the author. While hardly technical enough for the

physician it may prove of interest to the more intelligent of the laity.

THORNTON'S POCKET FORMULARY. New (9th) edition. Containing about 2,000 prescriptions, with indications for their use. In one leather-bound volume. Price, \$1.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

This is an exceedingly useful and practical little work. The formulae have been carefully selected and cover a wide field. The possession and judicious use of this work is recommended to young practitioners as an offset to the proprietary mixture habit.

THE PRACTICE OF MEDICINE. A text-book for practitioners and students, with special reference to diagnosis and treatment. By James Tyson, M. D., Professor of Medicine in the University of Pennsylvania, and Physician to the Hospital of the University; Physician to the Pennsylvania Hospital; President of the College of Physicians of Philadelphia, etc. Fifth edition, revised and enlarged, with five (5) plates and 245 other illustrations; 1438 pages; cloth, \$5.50 net. P. Blakiston Sons Co.

The appearance of the fifth edition of this work testifies to its popularity and to its worth as a text-book, both for the practitioner and student. This edition has been thoroughly revised and brought up to date and has been further improved by the addition of three new plates and seven new illustrations.

As in the former editions, treatment, as well as diagnosis, is fully discussed, making this one of the most valuable of the standard authorities.

OBSTETRICS. A manual for students and practitioners. By David J. Evans, M. D., Lecturer on Obstetrics in McGill University, Montreal; Fellow of the Obstetrical Society of London. New (2d) edition, enlarged and thoroughly revised. 12 mo., 440 pages, with 169 illustrations. Cloth, \$2.25, net. Lea & Febiger, Philadelphia and New York, 1909.

This will be serviceable to the practitioner who wishes to have a practical and concise working manual at hand. It will also be of value to the medical student, if used in conjunction with the larger works on obstetrics, or for rapid review.

Theories are treated briefly and each subject is necessarily condensed. There are disagreements with some of the standard authorities in minor detail, but this work is evidently a resumé of the author's large personal experience and is not in-

tended to take the place of the larger text-books.

This book is ably and clearly written, and the illustrations are unusually good.

THE CURE OF RUPTURE BY PARAFFIN INJECTIONS.

By Charles C. Miller, M. D. Comprising a description of a method of treatment destined to occupy an important place as a cure for rupture owing to the extreme simplicity of the technic and its advantages from an economic standpoint. Published by the author, 70 State St., Chicago. Prepaid, \$1.00.

The author of this volume of 80 pages is an enthusiastic advocate of the paraffin method for the cure of hernia, and argues its advantage on the ground that it can be used without an anesthetic; that it is applicable in the physician's office, and the treatments (injections) are exceedingly simple. The method of preparing the patient; a description of the syringe; the various formulas of paraffin to be used, and the technique for making successful injections are given.

We do not commend the work as one embracing a teaching that is safe, especially in the hands of "near" skillful operators, nor do we believe that paraffin can be used in the average case with any degree of certainty in the way of a "curative" end result.

ORGANIC AND FUNCTIONAL NERVOUS DISEASES.

A text-book of neurology. By M. Allen Starr, M. D., Ph. D., LL. D., Sc. D., Professor of Neurology, College of Physicians and Surgeons, New York; ex-President of the New York Neurological Society. Third edition, thoroughly revised. Octavo, 904 pages, with 300 engravings and 29 plates in colors or monochrome. Cloth, \$6.00, net; leather, \$7.00, net. Lea & Febiger, Philadelphia and New York, 1909.

Like former editions of the work, this book covers the subject of neurology in a most complete manner. The methods of neurologic examination of patients, the interpretation of symptoms and the principles of diagnosis are clearly taught in the first part. Organic nervous diseases are fully considered in the second part, and the subject matter has been brought up to date by the addition of all that is new pertaining to beri-beri, caisson disease, and syphilis of the nervous system, and by the newly written sections concerning the surgical treatment of several neurologic lesions.

Functional nervous diseases are much more

satisfactorily discussed in the third part of this edition than in former publications of the work. Psychotherapy is discussed in a very fair and sensible manner, and the student cannot help but be impressed with its importance in dealing with the functional nervous diseases.

In part four disturbances of the sympathetic nervous system are discussed. The chapter on vaso-motor and trophic neuroses is an important one.

VACCINE AND SERUM THERAPY. Including also a study of infections, theories of immunity, opsonins and the opsonic index. By Edwin Henry Schorer, B. S., M. D., Assistant Professor of Pathology and Hygiene, University of Missouri; formerly Assistant Rockefeller Institute for Medical Research, New York City. Illustrated. St. Louis. C. V. Mosby Co., 1909.

This work is well adapted to the use of the general practitioner who wishes to know something of the theory and practice of opsonins and serum therapy.

The first and second chapters discuss infections and immunity and are well written. The various theories of immunity are set forth in a simple, easily understood manner.

Chapters three to six, inclusive, are taken up with the subject of opsonins and this subject is presented in as simple a manner as would seem possible.

The chapter presenting criticisms and modifications of Wright's methods for determining the opsonic index is especially interesting. The subject is approached from the practical side and the many possible sources of error in the determination of the opsonic index are well demonstrated. The many modifications of Wright's method have been explained and their comparative value discussed.

The interpretation of the opsonic index in health and disease is discussed in such a manner that the physician may post himself sufficiently to render intelligent his reading upon the subject.

The portion of the work devoted to serum therapy is very practical and reviews the subject in all of its latest phases. The author gives especial attention to those of the serums which have proven themselves of practical value and aids the reader in the selection of those which have been properly tested.

The entire work is well worth the attention of both physicians and medical students.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

The Adams County Medical Society met Wednesday, October 20, at Seaman. The program was as follows: Miscellaneous business; "Some Interesting Cases," G. F. Thomas, Peebles; dinner at Spargur Hotel; "The Care of Patients After Operation," J. C. Oliver, Cincinnati; "Renal Calculus," O. B. Kirkpatrick, Cherry Fork; clinical reports.

The Highland County Medical Society met at the Hotel Parker, Hillsboro, Wednesday, October 13, at 10:30 a. m. The following program was carried out: Paper, H. W. Chaney; paper, T. W. Duvall. At the afternoon session, W. W. Glenn read a paper on "Travel Notes."

At the meeting of the Cincinnati Academy of Medicine of September 27, Oscar Berghausen reported his summer's work on serum diagnosis of syphilis, showing numerous specimens. He considered that no single diagnostic measure has ever attained greater importance than the deviation of the complement test for the serum diagnosis for syphilis. The Noguchi modification is the only one which bids fair to stand the test of time. A positive reaction can be safely accepted as indicating the presence of an active luetic condition. A negative reaction does not exclude syphilis, but indicates that the patient has no syphilitic amboceptors in his blood; that is, the condition is either absent or latent. A negative reaction is frequently as important as a positive; for instance, in the differentiation between a carcinomatous and a syphilitic ulceration. Also in syphilophobia, in the question as to whether a given wet nurse has active syphilis or not and in instances where the physician does not wish to ask the patient directly as to the presence of syphilis, and furthermore to determine whether a given routine treatment had been effective or not, and lastly whether or not the individual may safely marry or not. Its importance in forensic and insurance questions need only be mentioned to be appreciated. The reaction is less common in the first than in the second and third stages of the disease. In parasyphilitic affections the reaction is of the greatest importance, since fully 70 per cent. of tabetic cases and nearly all of dementia paralytic cases show a positive reaction.

The Warren County Medical Society met at Lebanon October 12, with President J. M. Wright in the chair and Secretary H. I. Fisher at the desk. "Tedious Labor Due to Rigid Os," was the subject of the paper by A. T. Wright, of Waynesville; "The Submerged Tonsil," by Wm. Mitcheffer, of Cincinnati, and "How to Arrive at a Diagnosis in Suspected Joint Disease," Charles E. Caldwell, of Cincinnati.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

The regular meeting of the Montgomery County Medical Society was held at Dayton on October 15. The program was as follows: "Enteric Fever: Etiology and Diagnosis," Chas. T. Hunt; "Enteric Fever: Complications and Sequelae," B. D. Keever; "Enteric Fever: Treatment," Jost. B. Kramer.

At the meeting of September 30 a stereopticon lecture on the blood was given by Chas. S. Bond, of Richmond, Ind.

SECOND COUNCILOR DISTRICT MEETING.

The Second Councilor District meeting was held in Dayton, October 26, and was a very successful one. The forenoon was devoted to surgical clinics. Joseph Price, of Philadelphia, did a number of abdominal sections. Dr. Price accompanied his work with a monologue which is a delight to his hearers, as well as a great source of instruction. His operative work was done at St. Elizabeth Hospital. In a second operating room at the same time and place, Horace Whitacre, of Cincinnati, did some joint resections and gland resections..

At the Miami Valley Hospital, John Young Brown, of St. Louis, did several abdominal sections.

These clinics were all well attended by an enthusiastic crowd. After the surgical clinics all went to the Dayton State Hospital, where an unusually nice luncheon was served in the dining hall by the ladies of the institution. After the luncheon a general medical clinic was held in the assembly room of the hospital, Dr. Hoover, of Cleveland, presenting cases of Basedow's disease and aneurysm of the aorta, giving a short clinical lecture on each. George Crile read a paper on "Operations on Handicapped Patients." Dr. Crile advises anesthesia by nitrous oxide and

oxygen, preceded early in the morning by morphine and hyoscine hypodermically, where the patient's condition predisposes to shock. He would also be prepared to use transfusion should the emergency arise demanding it. Owing to illness, Alfred Crofton, of Chicago, was not present to give a clinic on internal medicine, as was announced, much to the regret of all. Dr. Roop, of Dayton, presented several cases of skin disease.

In the evening a six o'clock dinner was served in the banquet hall of the Y. M. C. A. building, where the following program was pursued: "Ourselves," responded to by C. L. Patterson, Dayton; "The Twentieth Century Doctor," J. H. J. Upham, Columbus; "Qualifications in Surgery," H. T. Sutton, Zanesville; "Isms," Dan Millikin, Hamilton.

Springfield was selected as the next place of meeting and the following officers were elected for the coming year: President, A. C. Messenger, Xenia; Secretary, C. L. Minor, Springfield; Treasurer, Horace Coleman, Troy. This was the largest and most enthusiastic meeting ever held in the district and much credit is due the officers for the work they did.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Surgical Section of the Academy of Medicine of Toledo and Lucas County met September 24. Wm. J. Gillette read a paper entitled "Hysterectomy for Carcinoma of the Uterus by Means of Electro-Cautery."

Dr. Gillette said that abdominal hysterectomy is about the only operation now recognized by competent surgeons as a proper method of dealing with uterine carcinoma. The percentage of permanent cures of those remaining well after five or more years is by far the highest yet attained by any other operator with this kind of an operation. However, the average surgeon is not able to secure results comparable to those of Wertheim. The death rate at operation is now 8 per cent. for Wertheim and with operators of less ability is easily 20 to 30 per cent. Wertheim has reduced his first primary mortality by increased experience and allowing his assistant, Kundrot, to work on one side of the patient while he works on the other. Statistics were cited of hysterectomy in the hands of Crile, Rosthorn, Cullen and others.

Dr. Gillette summarizes the most objectionable features of the Wertheim operation as follows:

(1) The comparatively small numbers of patients suffering with uterine cancer that are suitable for its performance.

(2) An operative death rate at the hands of the ordinary operator of 20 to 30 per cent.

(3) The fact that aside from Wertheim himself, the percentage of permanent cures is probably not more than 20 per cent., a percentage of cures but little, if any, better than vaginal hysterectomy.

(4) Urethral fistulae have followed its performance in a comparatively large number of cases.

Turning to the operation of John Byrne, of Brooklyn, Dr. Gillette gave a history of the operation from its inception in 1872. Byrne, in a period of twenty years, operated over 367 cases, with no operative death. Byrne's operation consisted in removing the cervix with a heated platinum loop, curetting and charring the endometrium and applying a tampon of acetic acid and tannin. Byrne says: "I have never known an instance of relapse in which the disease has returned to the part from which it had originally been excised or very close to the cauterized surface from which the cervix had been removed by the galvanic cautery." This is in strong opposition to the great frequency of recurrence in the vaginal cicatrix of cutting operations.

Dr. Gillette quoted Werder's description of the operation now done with the cautery, and this is the technic which he closely follows: The patient is prepared as is usual for abdominal operation and placed upon the operating table in the exaggerated lithotomy position. The vagina is cleansed as thoroughly as possible, as well as the surrounding parts. An ordinary retractor is introduced, the cervix seized with a volsellum forceps and all necrotic tissue removed from it by means of a sharp curette. A large cautery electrode is now introduced, and the surface denuded by the curette is burned until all bleeding and oozing ceases. A sinus double tenaculum is now introduced into the uterus and widely opened and the uterus brought down as near the introitus as possible. The vagina is incised entirely around the cervix at some distance from the diseased tissue by means of a cautery knife. The knife, kept at a cherry red, is carefully carried upwards between the uterus and bladder to the peritoneum, which may be incised with scissors.

The knife is now used in the same manner along the posterior wall of the uterus until the cul-de-sac of Douglas is opened. All lateral vaginal attachments are next burned through. At this point the operator decides whether he will complete the operation by way of the vagina or abdomen. If the vaginal method is elected, the broad ligaments are next seized on either side of

the uterus with clamps or long forceps, having previously with the finger by stretching enlarged the space between the rectum and uterus, and the uterus is completely cut away with ovaries and tubes.

Downs' clamps are now attached outside the forceps to the broad ligaments, the current turned on and allowed to remain until the tissues are thoroughly burned. The forceps are removed, peritoneum closed, drainage introduced and the patient put to bed.

If, however, the surgeon elects to remove the uterus by way of abdominal incision, the patient is put in the Trendelenberg position, a double ligature applied around the infundibulum ligaments on both sides and the Downs' clamps placed on the broad ligaments, which are burned until the tissues are like a white band. The uterus is now removed. Recovery is usually prompt and the mortality low.

J. H. Jacobson read a paper on "The Radical Operation for Carcinoma of the Uterus." The history of the development of uterine hysterectomy was traced by Dr. Jacobson. He said that the abdominal radical extirpation of cancer of the uterus may be said to be still in the process of development. Sufficient time has not elapsed in which to draw definite conclusions, but this fact remains—that up to the present time our experience with operations for cancer in all parts of the body proves that an operation which gives the least number of recurrences must conform to the following general principles, namely:

The complete removal of the diseased organ, together with as much of the surrounding tissues as is possible, together with the removal of the regional lymphatic glands which drain the part affected.

Even though the primary mortality of the abdominal operation is greater than that of the vaginal, it is to be preferred.

The chief reason for the high primary mortality accompanying the radical abdominal operation for uterine cancer may be summed up in one word—i. e., "shock."

This shock may be due to any one or more of the following causes:

- (1) Inaccessibility of the deep pelvic structures, causing rough manipulations.
- (2) Manipulation and exposure of the abdominal viscera, particularly the small intestines.
- (3) Hemorrhage.
- (4) Prolonged operation with subsequent prolongation of the anesthesia.

The radical operation is as follows: The fundus of the uterus is grasped by a double tenaculum, care being taken not to squeeze or compress the uterus with this instrument. The infundibulo pelvic ligaments, including the ovarian vessels, are first ligated on either side. Bumm's incision for quickly locating the ureters is made, first on the right side, running outwards and forwards, between the round ligament and the fallopian tube. This incision goes through the peritoneum and the cellular tissue. The later is separated by blunt dissection down to the ureter. As this incision crosses the ureter at right angles, one can hardly avoid finding that organ immediately. The uterine vessels and any enlarged glands can be seen or felt at this stage of the operation; the glands are removed and the artery ligated. The same procedure is carried out on the left side, the fallopian tubes and ovaries being removed with the uterus. Bumm's method of finding the ureters is much better than Wertheim's, the ureters being found more quickly and the operation is thereby shortened and shock lessened.

The peritoneum covering the bladder and uterus is next incised and the bladder pushed downwards, with dry gauze dissection.

The uterus and its appendages now are quite free and may be pulled upwards well into the incision to facilitate the next most important steps in the operation.

On the right side the ureter is dissected upwards as far as the bifurcation of the common iliac vessels, and downwards to its entrance into the bladder, care being taken not to disturb its posterior attachments too much. Enlarged glands are removed as they are encountered. The uterine vessels on the right side are now tied to the outer side of the ureter, close to the pelvic wall. The same steps are now carried out on the left side.

As much of the cellular tissue of the pelvis as possible is now removed, cutting far away from the disease. This is done on both sides, cutting down to the sides of the vagina. This step is made with care, for often the diseased tissues are so friable as to cause an unintentional opening into the vagina or uterus. Great care must be exercised in keeping wide of the disease and in cutting through healthy tissue only.

When the uterus hangs only by the vagina, the Wertheim's right angled clamps are applied and the vagina severed distally to the clamps. About one or two inches of the vagina are thus removed. These clamps effectually prevents contamination of the wound with the secretions of the infected carcinomatous uterus. Some bleed-

ing is usually encountered from the vaginal arteries, but this is as a rule not troublesome if the uterine vessels have been secured.

The final steps of the operation consist in arresting of all hemorrhage, the further removal of any suspicious looking tissue, the covering of all raw surfaces with peritoneum, and the placing of three or four large rubber tubes (one-half inch) in the vaginal opening for drainage; these serve also to keep the vagina open for the subsequent Roentgen treatment.

This description briefly represents the normal type of operation. It is of course varied to suit individual cases. Involvement of the bladder or ureter can be dealt with by the recognized standard procedures.

The post-operative X-ray treatment is begun as early as is possible after the operation. This we commence as early as the third day and carry it out in a most aseptic manner, with the aid of an expert Roentgenologist.

The ideal position of the patient for vaginal X-ray treatment and the one which should be used later is the knee-chest position with ballooning of the vagina. This position is the only one that allows of thorough treatment.

For the first week or ten days after the operation the exposures are made with the patient in the lithotomy position, and the pelvis elevated. As soon as is possible the knee-chest position is used.

The Roentgenologist should, if possible, witness the operation, in order that he may plan the after treatment to the best advantage. In this wise the more affected areas can be better treated.

About forty very thorough exposures are made in the after treatment with the X-ray.

The points in favor of the post-operative X-ray treatments after the abdominal radical operation for uterine cancer are:

1. The ray has shown that certain superficial forms of cancer are amenable to cure by its employment. The necessity of post-operative treatment of mammary cancer by means of the ray seems established. The morphology of carcinoma is recognized as being the same in uterine cancer as it is in the mammary gland or in cancer in any other part of the body.

2. Theoretically it would seem that if the pelvic structures could after operation be technically rendered superficial, and directly accessible to the ray, the same results could be accomplished here as are obtained elsewhere.

3. The ordinary X-ray treatment of uterine cancer has proven itself a failure, but no exten-

sive post-operative X-ray treatment of uterine cancer has heretofore been tried. Following the operation the muscular uterine body is not present to resist the ray. The shortened vagina and absent uterus and the knee-chest position favor and permit of the direct exposure and penetration of all the parts of the pelvis by the ray.

4. The technic, when properly employed, allows of direct treatment of every part of the pelvis; the dose can be easily regulated, and the tubular lead glass speculum, when properly directed to all parts of the vaginal fornix, permits of a systematic and thorough exposure in every direction.

5. Cancer of uterus does not have tendency to metastasis into other organs as do other forms of cancer. The statistics of Simmonds show that 51 per cent. of all cases of uterine cancer die from local recurrences, with subsequent complications in the urinary organs, only 17 per cent. from cachexia and general carcinosis, 15 per cent. from pneumonia, and 10 per cent. from peritonitis.

6. It is now an established fact that recurrence after the vaginal operation for uterine cancer occurs in the vaginal cicatrix, whereas in the abdominal radical extirpation the recurrence is usually in the lymphatic glands of the pelvis. The main object of thorough post-operative X-ray treatment is to obliterate these glands and thus anticipate and prevent any return of the disease.

The main object of the paper was to emphasize the good results which are obtainable by the abdominal radical extirpation for cancer of the uterus and to make a plea for the more general employment, for by this method we operate around the disease and not through it. No other operation is comparable to this method.

Further, that spinal anesthesia greatly reduces the operative mortality, and that thorough, systematic post-operative X-ray treatment can be employed here just as efficiently as other forms of cancer.

The Pathological Section of the Academy of Medicine of Toledo and Lucas County met October 8.

John Keller reported a case of tuberculosis of the kidney. This was discussed by Drs. Levison, Grosh and others.

C. E. Yeagle read a paper entitled "Medical Practice and Customs in the Philippines." Dr. Yeagle, who has spent a considerable number of years in the Philippines, described the low status of medical practice in the islands.

Floyd M. Freeman reported a case of carci-

noma of the caecum. This report was as follows:

I wish to report this case because of the infrequent occurrence of malignant disease in this locality.

Patient—Male, aged forty; occupation merchant.

Family History—Father died of stomach trouble (nature unknown), at fifty-six. Mother died of pulmonary tuberculosis at sixty-six. Several brothers died in infancy. One sister died of gall stones at thirty-eight. No further history of tuberculosis or cancer.

Personal History—Patient had malaria when twenty. He had some lung trouble about eight years, and has had a cough, but with no loss of weight or night sweats. Seven years ago he had an attack of colitis, lasting one month, with severe pains, but no diarrhoea.

Present Trouble—For past two years he has had indefinite pains, not localized, in lower abdomen. These bore no definite relation to the taking of food or to any particular kind of food. There has been no nausea or vomiting except three weeks ago from dietetic error. He has been troubled with gas and belching after eating. Bowels have been regular, and no blood has appeared in the stools. He became progressively weaker and had the characteristic straw colored integument of cancerous patients.

General Appearance—Somewhat emaciated; sallow; nutrition poor.

Heart—Dullness increased to right. Soft, systolic murmur at apex.

Lungs—Slight lagging in left apex. Few rales present in left apex.

Abdomen—Showed no distention. An irregular shaped mass, the size of an orange, could be felt in right cecal region. This was firm, somewhat movable. Some tenderness in cecal region, but not marked.

Urine—Negative with exception of few red blood corpuscles and some pus.

Blood—Red count, 4,600,000; white count, 15,000; hemoglobin, 55 per cent.

On July 18, 10 mg. of tuberculin were injected by Dr. Levison, followed the next day by a positive reaction, with chill, pains and fever.

On August 24, the tumor, including about eight inches of the ileum, the caecum and the ascending colon, were removed by Dr. Jacobson through a right rectus incision. Adhesions were marked, and the neighboring lymphatics were enlarged.

Gross Appearance—The tumor was firm and

somewhat nodular. The bowel in places appeared gangrenous and was nearly completely occluded. No tubercles were present.

Microscopical Appearance—Sections of the tumor showed marked glandular hyperplasia, with proliferation of the glandular epithelium; most of the glands were dilated. The smaller glands were lined with simple columnar epithelium, while in the larger ones the epithelium had become stratified. The growth was by infiltration, and in many places the basement membrane had broken down the proliferating cells, invading the connective tissue, which was relative diminished in amount.

Anatomical Diagnosis—Adeno carcinoma.

Sutton says carcinoma of the caecum occurs in 2 per cent. of cases of cancer of the intestine.

Cumston and Vanderveer collected seventy-nine cases of cancer of the caecum, which they reported with two cases of their own in *Annals of Surgery* for January and February, 1902. Of these eighty-one cases, thirty-three died; twenty-nine were cured for one year or more; six were well six months after operation; nine left the hospital four weeks after operation well; four were exploratory and found inoperable. Smith, in the *Annals of Surgery* for September, 1909, adds thirty-eight cases to those reported by Cumston and Vanderveer. Of these twelve died, twenty-four recovered and two were inoperable. In the first series reported the mortality was 40 per cent. In the last series the mortality was 32 per cent.

Panchet describes twenty-one operated in 1905 for cancer of large bowel, nineteen of which were in the colon and two in the caecum. Of these six died, a mortality of 29 per cent.

Volcher reported 101 cases of cancer of the bowel, excluding the rectum, in which the operative mortality was 41 per cent. The caecum was the site of growth in seven of these cases; small bowel, one; sigmoid or colon, fifty.

Maydle collected in twelve years at the General Hospital of Vienna 100 cases of carcinoma of the intestine, the location as follows: Duodenum, 2; ileum, 4; large bowel, 46 (1 in appendix, 9 in caecum, 6 in ascending colon, 17 in transverse colon, 13 in sigmoid flexure); 48 occurred in the rectum.

Nothnagel from 1882 to 1893, in 21,358 necroses, found 243 cases of cancer of the intestine. Of these 118 were of the large bowel, fourteen of which were of the caecum. According to Nothnagel, the duration of life without operation is from six months to two years. Wolfert reports one case of seventeen years, cure following operation. Mickulitz reports five cases cured from six

to fifteen years. Czerny reports one case cured for six years.

The Medical Section of the Academy of Medicine of Toledo and Lucas County met October 15. W. A. Dickey read a paper on "Cardiac Arrhythmia." The two theories of the heart beat were first described. The myogenic theory was first enunciated by Von Heller more than a hundred years ago. Gaskell's classic work showed that the conduction of the impulse from sinus to ventricle was by muscle and not nerve. He found that by cutting the nerves the rhythmic action of the heart was not disturbed, but by severing the muscular connection between the sinus and ventricle and leaving the nerves intact, the ventricle stopped at first and when it did start the rhythm was different from that of the sinus.

Gaskell's two laws were considered. These are (1) that "the power of independent rhythmical contraction decreases regularly as we pass from the sinus to the ventricle" and (2) "the rhythmical power of each heart segment varies inversely as its distance from the sinus."

The various views of those who hold the neurogenic theory were given in detail. It must be mentioned that Keith and others have demonstrated nerve cells and fibres in all parts of the heart, as well as in the bundle of Keith and His.

Taking up the origin of the cardiac cycle, Dr. Dickey said that it was generally conceded that the source was the sinus, from which it spread with increased intensity to the auricle and ventricle. It reaches the auricle by way of the bundle of Keith, and the ventricle by the bridge of Gaskell or the bundle of His. The last place to pulsate seems to be the wall of the coronary vein. Anything which disturbs the origin of the heart beat or the transmission of its impulse must produce an arrhythmia. The cardiac muscle may lose its irritability or it may be increased.

The mind has an influence on the heart rate. The rate may vary or an arrhythmia develop. The vagus may cause the heart to beat rapidly and wildly. The proof of this vagus influence is seen in the effect of an hypodermic action of atropine, which paralyzes the vagus.

The types of cardiac arrhythmias include pulsus paradoxus or the pulse of Knosmaul, pulsus bigeminus, trigeminus, etc. A new nomenclature has been introduced by Henieg. It includes the "respiratory type," the type caused by extra systoles to which the bigeminus and trigeminus belong, partial or complete heart block, and the perpetually irregular pulse.

The respiratory type is least important. The pulse beats more rapidly and less forceful during inspiration. Respiratory changes occur after acute infections, in organic and inorganic nervous diseases. Most cardiac arrhythmias are due to extra-systoles. The place of origin may be auricle or ventricle or auriculo-ventricular junction. McKenzie states that it has its origin in embryonic tissue. By this is meant the bundle of Keith, the node of Tarvaria or bundle of His. The extra systole is followed by the compensatory pause, so that when an extra systole occurs in the ventricle the following regular impulse from the auricle is inadequate to cause a contraction.

Arrhythmias due to partial or complete heart block are not common. The amount of disturbance depends on the severity of the disturbance. Complete dissociation of auricle and ventricle causes slow pulse, syncopal or epileptiform attacks. The nervous mechanism and the myocardium are not without influence in heart block.

Frank Winders, of Columbus, read a paper entitled "Cardiac Dilatation and Cardio-Sclerosis."

Abstract of Dr. Winders paper:

Attention was called to the fact that dilation of the heart, properly speaking, consisted of an increase in the capacity of the heart chambers. That its cause was loss of tenacity of the heart muscle and about the usually accepted idea that dilation was due to an increase of pressure within the heart did not explain many cases of this condition. Examples were cited where the matter of increase of pressure could not be regarded as an etiological factor in the production of dilation. The results of dilation were divided into changes in the heart itself such as increase of size, presence of murmurs; alterations in movements and changes in position, and remote effects resulting from impaired circulation in other organs, oedema, ascites, enlargements of the liver, dyspnoea and impaired digestion. When dilations take place there follows an impairment in contractile force and a corresponding decrease in reserve force. As long as the contractile force of the heart is able to maintain an arterial pressure sufficient to supply the various tissues and organs with blood no symptoms are present, but when a special demand is made upon a heart with little or no reserve force, subjective symptoms make their appearance.

When the heart is unable to maintain an arterial pressure sufficient to supply remote organs, symptoms more prominent in character occur such as oedema, enlarged liver and kidney manifestations. Oedema was cited as one of the most significant signs of dilation; it being prompt in its

appearance and equally prompt in its disappearance where compensation is re-established.

Oedema of the lungs is often the earliest sign of dilation especially in patients who are confined to bed. Under normal conditions the blood is made to flow through the lungs by the force of the right ventricle, aided by the movements of respiration. In the event of dilation of the right ventricle, this aid from respiratory movements is of much importance, hence the necessity for changes of position in the case of patients who are confined to bed. The practice of careful auscultation of the lungs will often enable the observer to discover the very earliest signs of impending heart value. The discovery of fine rales at the base is significant and these will often be found before any dyspnoea is recognizable.

Signs in the lungs are often the earliest evidence of impending cardiac failure and frequently the last to clear up after heart tone is restored.

Symptoms referable to the kidney in cardiac dilation are diminution in amount and an increased specific gravity of the urine. Albumin is by no means a constant accompaniment of failing heart. These disorders of the kidney result from a fall in arterial pressure; a rise in venous pressure and a consequent venous stasis.

The gravity of prognosis is by no means in proportion to the extent of dilatation. Absolute accuracy in prognosis will only be attained when the conditions of the heart tone can be accurately measured.

Prognosis is more favorable in an individual with extensive dilatation who can withstand exercise without dyspnoea, faintness and palpitation, than in one with a slight degree of dilatation who suffers with marked subjective symptoms after slight exercise.

Cardio sclerosis refers particularly to the class of cases in which changes in the heart muscle are secondary to degeneration of vessels supplying that organ. Many cases are found for which no definite cause can be assigned. Arterial degeneration usually follows syphilis, diseases of the kidneys and overstrain.

The most important sequence of arterial degeneration is the encroachment upon or obliteration of the capillaries. This process involving the general arterial system becomes a double source of embarrassment to the heart, by diminishing the blood supply of the heart muscle, and by narrowing the communication between arteries and veins, thus increasing peripheral resistance and placing an additional burden upon a heart already embarrassed by defective nutrition.

Sclerosed vessel walls are more than normally sensitive to impulses from the vasomotor centers (Pal) and through their agency a spasm or hypertonic contraction results which adds additional peripheral obstruction to the overburdened heart muscle.

The symptoms of cardio-sclerosis are valuable even though the pathological condition seems to be identical. One patient has disturbed rhythm, one has cardio-asthenia, another angina pectoris, and so on. McKenzie suggests that the variation in symptoms is due to the fact that the different parts of the heart are affected by the sclerotic process, that when one particular bundle of fibers is attacked certain manifestations result, when another bundle is affected other symptoms occur.

In the earlier stages of cardio-sclerosis, symptoms only arise when an extraordinary demand is made upon the heart, under ordinary circumstances no inconvenience is noted. With the advance of the degenerative process symptoms are more constant and arise without apparent exciting causes.

High blood pressure is usually present until dilatation of the heart occurs.

Blood pressure readings may be high because of a rigid vessel wall when the actual intra-vascular pressure is low. This fact must be considered in estimating blood pressure in arterio-sclerotic subjects. Prognosis depends upon the ability of the diseased heart to maintain the circulation.

If a heart meets ordinary demands without the occurrence of dyspnoea, and other subjective symptoms the prognosis need not be unfavorable, though irregular rhythm and high blood pressure are present.

The most important essential in the treatment of dilatation and cardiosclerosis, is absolute rest. Especially in dilatation are the result of proper rest satisfactory. The rapidity of the heart action may often be reduced from twenty to thirty beats per minute by rest alone.

Digitalis is by far the most valuable remedy for dilatation, but must be given to meet definite indications, otherwise it is more harmful than beneficial. A rapid, irregular heart with low blood pressure, dyspnoea and beginning oedema are the indications for its use. The practice of giving digitalis in every case of disease of the heart is a dangerous procedure.

Attention to diet and hygiene are equally as important as drug treatment.

The most valuable drug in the treatment of cardio-sclerosis is iodid of potassium. Cases suffering from cardiac asthma and frequent at-

tacks of angina pectoris are improved by its proper administration.

The vaso-dilators relieve cases in which the symptoms are due to the high pressure, drastic catharsis, in cases of weak heart is not without danger and the same may be said of the so-called irritant diuretics.

These papers were discussed by Drs. Grosh, Levison and Sallume.

The Academy of Medicine of Toledo and Lucas County observed Clinic Day, October 21.

ST. VINCENT'S HOSPITAL.

10 a. m.—J. G. Keller, Perineal Prostatectomy; C. N. Smith, Exploration of the Biliary Tract; Pathological Demonstrations; W. H. Snyder, Eye Clinic; L. C. Grosh, Medical Clinic.

11 a. m.—James Donnelly, Gastroenterostomy; J. H. Jacobson, Abdominal Section; Thomas Hubbard, Ethmoidal Suppuration, Syphilis of Larynx; W. J. Stone, Medical Clinic; H. W. Dachtler, Roentgen Ray Demonstrations.

12 noon—Lunch.

1:30 p. m.—George M. Todd, Cesarean Section;

2:30 p. m.—L. F. Smead, Herniotomy; Peter Donnelly, Perineorrhaphy; Louis Miller, Nervous Diseases; Bacteriological Demonstrations.

3:30 p. m.—H. H. Heath, Surgical Clinic; L. A. Brewer, Surgical Clinic.

ROBINWOOD HOSPITAL.

10 a. m.—William J. Gillette, Surgical Clinic.

11 a. m.—Howard L. Green, Surgical Clinic.

TOLEDO HOSPITAL.

10 a. m.—John S. Pyle, Surgical Clinic; Wm. G. Dice, Malnutrition of Children.

11 a. m.—William G. Fisher, Herniotomy.

1 p. m.—A. F. McVety, Abdominal Section; F. D. Ferneau, Maniac Depressive-Insanity.

2 p. m.—Chas. M. Harpster, External Urethrotomy; Louis A. Levison, Meningitis: Diagnosis and Treatment.

3 p. m.—John P. Gardiner, Radical Operation for Hydrocele; E. I. McKesson, Special Work in Anaesthesia; Jeremiah Metzger, Solid Carbon Dioxide in the Treatment of Birth-Mark.

DEACONESS HOSPITAL.

9:30 a. m.—Sidney D. Foster, Herniotomy.

10:30 a. m.—Chas. Lukens, Extraction of Senile Cataract.

11 a. m.—Chas. W. Moots, Abdominal Section.

12 noon—Chas. G. Souders, Treatment of Tuberculosis.

THALIAN TUBERCULOSIS DISPENSARY.

10 a. m.—Ralph P. Daniels, Demonstration of the Physical Signs in Pulmonary Tuberculosis.

11 a. m.—Chas. F. Tenney, Treatment of Tuberculosis.

FIFTH DISTRICT

HARRY G. SLOAN, M. D., Collaborator.

The Erie County Medical Society met September 22. The program was as follows: "Our Tubercular Brethren," H. C. Schoepfle; "The Care of Uncomplicated Fractures of the Long Bones, Through the Shaft and at the Joint," W. H. Pollock.

The Huron County Medical Society met at Norwalk, October 14. Program: "Diagnosis of Surgical Diseases of the Abdomen," F. M. Kent; discussion, A. L. Osborn.

The sixty-third regular monthly meeting of the Lake County Medical Society was held at Painesville, Ohio, Monday evening, October 4, 1909. The program was as follows: Minutes of last meeting; miscellaneous business and payment of special assessment; presentation of cases; paper by Frank J. Geib, of Cleveland, on "Nephritis"; discussion.

SIXTH DISTRICT

A. J. MARCH, M. D., Collaborator.

The Mahoning County Medical Society met Tuesday evening, October 19, at the Elk's Club, Youngstown. There were forty-five members present. We were particularly interested in this meeting because we had invited the Rev. Father Griffin to talk to us about a new Catholic hospital which is to be started in Youngstown, if possible. Father Griffin told us of the plans as far as they have matured. He spoke of the neces-

sity of such an institution, because of the lack of accommodations at the present time and because of the prospects of our rapidly growing population. He spoke most kindly of the advantages of a Sisters hospital, and of the sisters likely to come. The hospital situation was freely discussed by the society and the opinion of the majority of the society was to heartily endorse such an institution and to lend our support in any way possible.

At the close of Father Griffin's address a motion was made to the society that we raise our yearly dues to five dollars and make as a feature of the society a medical library. This brought out a free discussion and was carried by a large majority.

The question of the state conducting a medical defense department was introduced, but was laid on the table till November to give the members a chance to think and talk it over.

A motion was carried that we invite a man of national reputation to be present at our yearly November banquet.

T. Clark Miller visited us and gave an interesting and instructive talk on organization and state matters.

At 11 p. m. this most interesting meeting was adjourned.

NINTH DISTRICT

S. P. FETTER, M. D., Collaborator.

The seventh annual meeting of the Ninth District Medical Association was held in Waverly on Thursday, November 4. The following program was presented:

10:30 a. m., business session. 1 p. m., papers. "Modern Sanitation," Chas. G. Parker, Gallipolis; discussion opened by W. E. Howell, Rio Grande. "Early Manifestations of Tuberculosis in Childhood," Jane Nye Galliford, Pomeroy; discussion opened by L. F. Rousch, Pomeroy. "Serum Therapy," E. M. Dixon, Stockdale; discussion opened by S. P. Fetter, Portsmouth. "Diagnosis of Conditions Affecting the Upper Half of the Abdomen," Frank Winders, Columbus; discussion opened by John E. Sylvester, Wellston. "Gun Shot Wounds of the Abdomen," T. H. McCann, Scioto; discussion opened by J. L. Gahm, Jackson. "Ectopic Gestation, Diagnosis and Treatment," E. T. Dando, Wellston; discussion opened by J. H. Ray, Coalton. "Gonorrhoeal Infection in the Female," Lester Keller, Ironton; discussion opened by J. S. Rardin, Portsmouth.

A banquet was served at 7:30 and this social

session added much to the enjoyment of the meeting.

There was an excellent attendance and the papers and discussions were unusually interesting.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

Regular meeting of the Columbus Academy of Medicine, October 4. Program: "Headaches," by W. D. Deuschle. Discussion by Frank Winders, W. K. Rogers, F. F. Lawrence and J. E. Brown.

Meeting October 1: "Adenoid and Tonsillar Hypertrophies in Adults," by L. T. LeWald. Discussion by J. E. Brown.

"Some Points in the Diagnosis of Appendicitis," by J. F. Baldwin. Discussion by C. S. Hamilton, S. J. Goodman and Fred Fletcher.

Frank Winders presented the following specimen of cardio-vascular disease. The heart showed extreme hypertrophy with little or no dilatation of the ventricles. There was a large aneurism involving the arch of the aorta and a smaller aneurismal dilatation of the thoracic and abdominal aorta extending almost to its bifurcation. The vessel walls showed marked atheromatous changes. The aortic valves were extensively involved by the sclerotic changes. A very large piece of organized blood clot was found in the right auricle extending through the auriculo-ventricular orifice into the right ventricle. The right lung showed an infarct the size of a large orange.

The history of the case was as follows: Patient, male, aged 59; was first seen one year ago at which time there were found extensive arteriosclerotic changes through the arterial system. The area of cardiac dullness was increased very much to the left and downward, and the apex was located in the eighth interspace, one inch to the left of the nipple line. The cardiac impulse was forcible. A loud murmur was heard in the aortic region—diastolic in time and transmitted toward the ensiform cartilage. The blood pressure raised between 190 and 210. The patient showed marked pallor of the face, and a typical Corrigan pulse.

The most pronounced symptom was dyspnoea, which was at times extreme. The case progressed slowly until six weeks before death, when paroxysms of severe angina pectoris and cardiac asthma became frequent. At no time were there present any evidence of dilatation of the right heart; no edema; ascites or passive congestion of the liver. The urine constantly showed a trace of albumin and a few granular casts.

A few days before death an extensive right hydro-thorax developed, and there was some edema of the feet and legs. At the same time a marked difference in the blood pressure on the right and left side was detected. That of the right side reading "190," of the left "120." For three days before death the radial pulse on the left side was scarcely perceptible, the arm and hand being cold and lifeless. The patient became comatose eighteen hours before death, during which time Cheyne-Stokes respiration was well marked. The autopsy findings indicated that death was due to pulmonary apoplexy.

H. A. Baldwin reported three cases of kidney and bladder disease, presenting some points of unusual interest:

1. A man, aged 45, who, twenty years ago, had had a specific urethritis with the usual complications. For the last several years has been suffering from a cystitis which resisted the usual forms of treatment. Cystoscopic examination showed the bladder the seat of a chronic cystitis, with one or two small ulcers, but to the right of the ureteral opening was an opening into what was evidently a diverticulum. This opening was about one-quarter inch in diameter, sharply margined, and perfectly round as if cut out with a punch. It was evident that this diverticulum was the cause of the intractable cystitis, as having once become infected it kept pouring into the bladder a constant supply of infecting material.

2. A woman, aged fifty years, with a history of bladder trouble dating back several months. Cystoscopic examination made with but 60 centimeter of water dilatation showed both ureteral orifices widely dilated and fixed. The left ureteral catheter was introduced without difficulty. The right catheter, however, met an impassable stricture about one inch from the bladder. The operation next day revealed cancer of the bladder which had not yet eroded the mucous membrane so as to be noticeable to the cystoscope. A cancerous nodule surrounded the right ureter about one inch from the bladder, thus explaining the stricture, which prevented the passage of the right catheter.

3. A man, aged 57 years, presenting symptoms of enlarged prostate, but the symptoms were entirely too marked for the enlargement which could be felt through the rectum. The prostate was excessively hard, and the right lobe running off into surrounding tissues gave it a feeling strongly suggestive of cancer. Cystoscopic examination showed that the lateral lobes did not

seriously encroach upon the bladder outlet, but that there was a small nodule situated slightly to the right of the median line, and in such situation acted as a ball valve. This very satisfactorily explained the unusual severity of the symptoms, and the great retention of urine. The operation the next day verified this diagnosis, and the prostate was evidently cancerous.

The sixth annual meeting of the Tenth District Medical Association convened in Gray Chapel of the Ohio Wesleyan University at Delaware, on Thursday, October 7, with President D. V. Court-right, of Circleville, in the chair. The morning session was devoted to general business. A revised constitution was adopted and the following resolution was endorsed and ordered to be sent to the State Association:

WHEREAS, It is the belief of the Tenth District Medical Association that the district societies are deeply interested in the selection of their respective councilors and should therefore be given an opportunity to express their views as the most available candidate for the position; and

WHEREAS, It is always possible to re-elect a councilor who has shown his fitness for the position, after a short term, while a long time renders an unsuitable councilor a detriment to the organization; therefore, be it

Resolved, That the Tenth District Medical Association recommend earnestly the amending of the Constitution and By-Laws of the State Association so as to permit each district association to have some voice in selection of its councilor, and further, to change the term of office from its present length of five years to some shorter period as the Association may deem advisable.

A resolution of thanks to the Ohio Wesleyan University and to the local society for the very satisfactory arrangements for the meeting and the hearty welcome, was also adopted.

The following officers for the ensuing year were elected: President, G. W. Morehouse, Delaware county; Vice President, W. H. Christopher, Madison; Second Vice President, Geo. S. Stein, Franklin; Third Vice President, John Birk, Crawford; Fourth Vice President, C. F. Larimore, Knox; Secretary-Treasurer, Fred Fletcher, Franklin; Executive Committee, C. D. Mills, chairman, Union; G. W. Morehouse, Delaware; Fred Fletcher, Franklin, J. H. J. Upham,

Franklin: G. O. Beery, Fairfield, and chairman of local committee of arrangements.

The Association then adjourned for luncheon.

The following program was then followed at the afternoon session: "Laboratory Diagnosis of Internal Medicine," J. J. Coons, Columbus; discussion, Frank Winders, J. M. Rector, J. D. Dunham, C. W. McGavran. "Gynecological Diagnosis," D. Tod Gilliam, Columbus; discussion, J. J. Silbaugh, Lancaster. "The Treatment of Some of the Commoner Skin Diseases," C. J. Shepard, Columbus; discussion, E. J. Emerick, Columbus. "Fractures of the Hip Joint, With Special Reference to Its Occurrence in the Aged," Sherman Leach, Columbus; discussion, W. J. Means, A. L. Steinfeld, C. M. Shepard, Fred Fletcher. "Physiology and Pathology of the Heart," John E. Greiwe, Cincinnati.

At the close of this session Dr. Geiwe held a Heart Clinic to which all were invited, and a most instructive hour was enjoyed by the large attendance.

The Delaware County Medical Society entertained the members of the Association at dinner at 6:00 p. m., in the Edwards Gymnasium on the College grounds.

Evening Session—"The Extra Professional Services of Physicians," Dan Milliken, Hamilton.

NEWS NOTES

The President of the American Gynecological Society has appointed a committee to report at the next annual meeting in Washington; on the Present Status of Obstetrical Teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of obstetrics in America.

The committee consists of the professor of obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, John Hopkins University, Cornell University and the University of Chicago.

Communications from any one interested in the subject will be gladly received by the chairman of the committee, B. C. Hirst, 121 Spruce street, Philadelphia, Pa.

SOUTHERN OHIO BOARDS OF HEALTH.

This organization consisting of Drs. Bryon Stanton, Cincinnati, W. T. Miller, Cleveland, Frank Warner, Columbus, J. C. Crossland, Zanesville, L. G. Palmer, Geneva, J. Hartzell,

Canton, and C. O. Probst, Columbus, together with the city and township health officers of the southern half of Ohio met in Cincinnati, October 14 and 15. A symposium was held on diphtheria. Health Officer Mounts, of Morrow, on "Quarantine," Health Officer Briggs, Wilmington, on "Cleansing and Disinfection," B. R. Rickards, chief of laboratories of the Board of Health, on "The Free Distribution of Diphtheria Anti-toxin," and Health Officer Skidmore, of West Mansfield, treated the subject on general terms. "Channels of Infection" was the subject ably considered by A. M. Bleile, professor of physiology at the Ohio State University at Columbus. "Vaccination," Charles Baker, Palestine. "The Prevention and Treatment of Rabies," A. P. Cole, Cincinnati. "Rural Sanitation," Bryon Stanton, Cincinnati. "Duties of a Township Health Officer," L. G. Kleppinger, Dayton. "How Typhoid Fever is Spread," N. T. McTeague, New Lexington. The Operation of Laws for the Registration of Vital Statistics, Frank L. Watkins, State Registrar, Columbus. Greenville was given thirty days to secure an opinion from the Attorney General relative to the construction of a sewage plant. Niles was ordered to build a new water works and purification plant. A resolution was passed requesting the passage of a law that the state purchase and supply diphtheria anti-toxin. It also requested the passage of a law appointing of twelve medical inspectors to assist the local authorities in the treatment of contagious diseases, and to provide for compulsory medical examination in the city schools and optional examination in the townships and villages. The following officers were elected: President, J. C. Crossland, Zanesville; Wm. T. Miller, Vice President, and C. O. Probst, Columbus, Secretary.

Clarence S. Ordway has just given a contract for the immediate erection of an eighteen-room hospital on his property at Oak and Fasset streets, Toledo. The new institution, while built by Dr. Ordway, will have the indorsement and support of fifty physicians of the city. As soon as the hospital is ready for use, a staff will be appointed. No subscriptions will be asked. Dr. Ordway expects to put the hospital on a self-supporting basis at once.

Wells Teachnor, M. D., The McLene, Columbus, announces his practice limited to rectal and intestinal diseases.

The State Tuberculosis Hospital, Mt. Vernon, will be ready to receive patients October 15. All patients will be received on four weeks probation.

J. A. Reibel, Columbus, has returned from Europe.

J. D. O'Brien and H. C. Eyman, Massillon, have sailed for Europe.

J. A. Hulse has been appointed school inspector of Akron.

M. O. Wert, Poplar, is in Europe.

The attorney general has handed down an opinion to the secretary of the navy that he has authority to assign a medical officer not below the grade of surgeon to the command of a naval ship. This decision has been made in view of the expected commission of the hospital ship, Solace, for which the Chief of the Bureau of Medicine and Surgery desires to ask the detail of a member of the medical department as commanding officer.—*Jour. A. M. A.*

W. E. Hover, Lima, was elected president of the Allen County Tuberculosis League.

The new Home of the College of Physicians Philadelphia, will be dedicated November 10.

DEATHS

James McClure, Marietta, died in Chicago, October 6, 1909. He was born in Meigs county in 1835, and graduated from Starling Medical College in 1864. He was commissioned assistant surgeon of the Twenty-third Ohio Volunteer Infantry. He practiced first at Albany and went to Marietta in 1871.

Otto Frankenberg, Starling Medical College, 1870, died at his home in Columbus, September 28, aged 63.

I. M. Mulholland died at his home in Toledo, June 31, from pneumonia, aged 85.

Frederick H. Williamson, Starling Medical College, class of 1888, died at his home in Massillon, Ohio, October 14, 1909, of pneumonia.

X. C. Scott, Western Reserve, 1867, died at his home in Cleveland, September 30, from apoplexy, aged 66.

F. G. Helms, Cincinnati College of Medicine, 1873, died at his home in Urichsville, September 24, aged 59.

G. N. Harcy, University of Budapest, 1848, died at his home in Bellevue, September 14, aged 79.

C. H. Springer, Western Reserve, 1882, died in the Cleveland City Hospital, September 17, aged 48.

MARRIAGES

William E. Lower, Cleveland, Ohio, to Miss Maybell L. Freeman, of Worcester, Miss., September 14.

Otto V. Huffman, of Dayton, and Miss Betsy King were married Wednesday evening, October 20, at the home of the bride's parents in Covington, Ky.

Thursday, October 21, at noon, A. F. Shepherd, superintendent of the Dayton State Hospital, and Miss Helen Tobey, of Toledo, were united in marriage, the ceremony taking place at the home of the bride's sister, Mrs. Alice Schenck in New York City. Dr. and Mrs. Shepherd will travel for a couple of weeks in the east before returning to their home in Dayton.

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ORIGINAL ARTICLES

THE TREATMENT OF SYPHILIS BY DEEP INJECTIONS.

A. RAVOGLI, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

I am sure that an article on so common a theme before a scientific body can have only little importance. But considering that I am referring to over thirty years of my own experience in the treatment of syphilis will render the paper of some interest, especially for what concerns the general practitioner. The common teaching that the treatment of syphilis consists in giving mercury and iodide preparations is wrong. I have seen patients who had been compelled to swallow lots of pills, or other kinds of remedies, who had been rubbed and boiled in the thermo-mineral springs, and yet three or five years after infection, when they had been assured of their complete recovery, they have showed a localization of gummata of the nose, or an attack of facial paralysis or something still worse.

On the treatment of the secondary period depends the future of the man's life, of his wife and family. A good, well directed treatment in the early period will save the life, will make the man eligible for the marriage, will prevent his offspring from suffering the ravages of the inherited disease.

It is therefore clear that we must bring into the treatment of syphilis precise and strict rules of method, which can only be mastered after many years of experience.

When in my practice I have asked a patient with severe tertiary symptoms what his treatment had been, the reply was three or five months of pills, or some course of inunctions, after which he had been perfectly well, until the onset of the tertiary manifestation. The number of late syphilitic ravages are gradually diminishing, and this is due to the more accurate treatment of syphilis used in the present days.

The only way that we can obtain accuracy in

the treatment and a perfect dosage of the remedy is the massive injections. The new era in the treatment was opened by the genius of the Italian, Angelo Scarenzio. His principle was the introduction of calomel into the system, which being insoluble remains in the tissues, and gradually supplies the organism with the necessary quantity of remedy. He did not restrict himself to the calomel, but also carried on experiments with soluble salts, as sublimate, cyanide, biniodid, and with insoluble salts such as phosphate, black oxide, bisulfate, which he injected in the same way, but the results did not satisfy him to the extent of having him abandon the first preparation.

The treatment of syphilis by injections has been called massive treatment, by Leredde¹ intensive. The advantage of this treatment is the precision of administering the remedy and the possibility of keeping account of the dose of the remedy.

The most excellent remedy in syphilis as recognized by everybody is mercury. In the series of all syphilitic lesions it shows nearly a constant action and brings the syphilitic symptoms to a decided improvement, and gradually to disappearance. The action of mercury compared with that displayed by arsenical and iodic preparations is durable and permanent. Moreover in the action of the mercurial preparations a preventive action is also found, which causes a persistent syphilitic lesion to disappear permanently from the affected location, and never recur.

Sometime in the early seventies, after the publication of the results of calomel injections in syphilis made by Scarenzio & Ricordi, Dr. Louis Laurenzi, my staff officer in the venereal department of the Hospital of Consolazione in Rome begun the treatment of syphilis with the massive injections of calomel. As I was his interne I used to give the injections to the patients. The calomel in a dose of gr. v was stirred in water with some gum arabic to make it mix better, and a syringe of the mixture was injected. The parts where the injection was given were the ex-

¹Leredde. Traitment Mercuriel intensif. *Revue Pratique*. Octob., 1908.

ternal region of the thighs, in the subcutaneous tissues. The results on the syphilitic symptoms were very satisfactory, but every injection produced in a few days an abscess, which made the method hated by the patients, and in a few days caused salivation.

When I went to Vienna, syphilis was treated in the clinic of Prof. Heinrich Auspitz by injections of bichloride of mercury in the form of one per cent solution. The injection was given deep in the gluteal region between the muscles. No particular pain was complained of by the patients. No abscess, nor indurations followed these injections. The results of the syphilitic manifestations were so remarkable that after a few injections a patient changed in appearance. I must say that since then I thought that this was the greatest treatment to be used. At the same time Professors Bamberger and F. Hebra were experimenting with injections of albuminate and peptonate of mercury, but the results were less satisfactory than those obtained with the solution of bichloride. When I returned to Rome in both private and hospital practice all my syphilitic patients were treated with deep injections of a one per cent solution of bichloride of mercury. From my observations and from my own experience I came to the conclusion that bichloride of mercury administered by injections has a remarkably prompt action on syphilis, that it is one of the least pyalic preparations, and in consequence can be continued without much discomfort. To come to a definite conclusion in reference to the duration of its action it took me a long time and I had to observe many patients. I must say in a general way that the more quickly a mercurial preparation acts on the syphilitic lesions, the less permanent its action is. Some patients treated by Auspitz with bichloride injections have come under my observation a few years later with tertiary symptoms. In consequence the bichloride injections have the great advantage of promptness in their action, but their effect lacks permanence. Yet for a period of over fourteen years I treated my patients with injections of bichloride, and also of calomel, until the gray oil prepared by Lang was made known and stood the test of the clinical observation. The first experiments with injections of metallic mercury were made by Fürbringer as early as 1879 in doses of from five to ten centigrams. But soon he incorporated the metallic mercury with mucilage and glycerin, and in other cases he injected the oleate of oxide of mercury mixed with oil of sweet almonds. Luton as far back as 1880 recommended the injections of metallic mercury, but he had no followers, until Lang incorporated metallic mercury with

lanolin, giving us a mixture of fifty per cent of mercury.

Lanolin. anhydric15,0=3IV

Chloroform50,0=3I½

Evaporate in a large mortar with continued stirring, down to 30,0.

Hydrarg. viv. depur.....30,0=3I

Stir slowly until the chloroform is wholly evaporated, and the metallic mercury can no longer be distinguished. This is the ungent. lanolinatum forte.

Ungent. lanol. fortis...9,0=gr. CXXXV

Olei vaselin3,0=gr. XIV

Add the oil to the ointment very gradually with constant stirring until a smooth oily mixture is obtained, keep in a wide mouthed phial with glass stopper. This is ol. cinereum fifty per cent.

In the beginning I had it prepared in Paris (France), but after a while I had it prepared by Louis Heister of this city, and I can assure you that his preparation is just as well made as the imported. As early as 1896 I begun to treat my syphilitic patients by injecting gray oil in a dose of from 1 to 3 mm. per each injection. I have not had time to go over my books to ascertain the number of patients and the exact number of injections given every year. From my reports to the Committee on Statistics of the American Dermatological Association, the number of my syphilitic patients between hospital and private practice ranges from 264 to 379 per year. The average may be calculated at 300 syphilitic patients every year under treatment. Calculating that each one has received only ten injections of gray oil per year, we have an average total of 3000. From 1896 to 1908 I must have given 36,000 injections of gray oil. The injection is given in the gluteal region, a needle one inch long being used. The needle is pushed between the glutei, and when no resistance is felt the few drops of the mixture are pushed. To be sure of the quantity of the mixture to be injected the transverse holder around the piston of the syringe is brought up. Each ring of the piston counts two drops. For an ordinary injection of six drops I place the transverse holder at three rings, if ten at five. The skin of the part to be injected is washed with alcohol or with a solution of one per cent bichloride, and when thoroughly clean the syringe is pushed into the established point. The fluid is then squeezed in gently and the syringe is removed. The pain is so insignificant that many patients do not notice when the syringe is withdrawn. The gray oil does not cause pain after the injection nor reaction, unless it be that about twenty-four hours

after the patients complain of a numb feeling in the place of the injection. At the onset of syphilitic eruption the injection with gray oil is given twice a week for the first two weeks. Then one injection per week is given until the patient has received ten or twelve. When symptoms are still persistent one injection every two or three weeks are sufficient. If, however, the symptoms have subsided the injections are stopped and the patient takes liquor Vanswieten through the mouth in order to maintain in him a constant degree of mercurialization.

Gray oil has over the injections of calomel and especially bichloride the advantage of producing very little pain and very little inflammatory reaction. The absorption of the gray oil occurs rather slowly in comparison with that of the calomel and the bichloride, and consequently its action is less rapid. The intensity of the effects is also found less than that of the calomel and of the bichloride, while the permanence of the effects is far superior to that of the two remedies mentioned. The same opinion was expressed by Leloir and Tauernier, Vogeler, Stokouvenkoff, Thilbiere, Barthelemy, Ullmann and others. Jullien advised the injections of gray oil after a series of injections with the calomel for the purpose of maintaining an even degree of mercurialization to insure the recovery.

In my practice in an ordinary case of syphilis I begin with gray oil injections in the manner described. In cases of syphilis of extraordinary severity, when the infection spreads rapidly, affecting the general system, I have found the injections of bichloride repeated every day to produce splendid results. In the same way in cases of visceral syphilis, obstinate gummata, obstinate papulo-squamous syphilide of the palms and soles, and some peculiar obstinate papulo-squamous eruptions of the legs and arms, the injections with bichloride have proved very effective. In cases of cerebral syphilis, optic neuritis, and affections of the joints and the bones, the injections with calomel have produced deep action and intense modifications on the threatening forms. Jullien praises so much the injections with calomel that he calls it *quid divinum*, when he could save a brother physician, who was on the verge of becoming totally blind from a syphilitic optic neuritis.

In my experience I believe that these three preparations of mercury, viz., bichloride one per cent solution, gr. one-fifth for each injection, calomel half grain to two gr. per each injection, and gray oil from six to ten drops, are the remedies to be chosen for the treatment of every case of

syphilis and are capable of coping with all the symptoms of this treacherous disease.

Indeed all mercurial preparations do not contain the same quantity of mercury. Calomel contains 80 per 100, sublimate 73 p. 100, bromide 55 p. 100, benzoate 45 p. 100. To these varying proportions must be ascribed the great difference in their action. Weak mercurial preparations have been used under the assumption that they are less poisonous and less pyallic. We must see that these preparations are easily eliminated in the urine, and the little quantity of mercury has no decisive action on the syphilitic lesions. In consequence weak preparations have to be avoided as insufficient for the intensive treatment of syphilis.

The toxicity of mercury is various in the different individuals. Some can bear large doses of mercury without inconvenience, while others are very soon severely affected. In a general way we can say that it is impossible to establish a priori the dose to be given. The patient has to be watched carefully. The gums have to be inspected at every visit, and as soon as the symptoms of pyalism appear the administration of mercury has to be stopped to avoid unnecessary complications. In general way at the onset of the disease when general systemic symptoms are present, we can give one injection per day of bichloride one per cent solution, equivalent to 1-100, which is one-fifth of a grain. After a certain number of injections have been given every day in succession, they are cut down to one every other day, and when the symptoms have abated under the action of the remedy, we return to the gray oil injections of from six to twelve mms. once in two weeks, etc. Calomel is injected in doses of two centigrams or one-half of a grain, every day or every other day until the required action is obtained. The untoward effect of the calomel is the stomatitis, which after a few injections soon appears. Moreover we must mention the fact that after injections with calomel in rather large doses a feverish reaction may follow. The patients experience fatigue, depression and also general debilitation. In the employment of intensive mercurial treatment it is necessary to consider the sensibility of the patient, the condition of the kidneys and the individual resistance. It must be stopped immediately when mercurial poisoning begins to show. The temperature and the general condition of the patient must be closely watched.

Intensive treatment can be given also by ingestion, but is hardly possible that all the mercurial preparation which has been taken through

the mouth has been absorbed. The administration of mercurial preparations through the mouth, I use only as an aid to the injections, and after a certain number of injections, I find it useful to continue the mercurialization in the infected.

As a general rule I rely mostly on the intensive treatment by massive injections with the three mentioned mercurial preparations. In all cases I have obtained good results in the infected himself and in relation to his family.

Some of you with good reason will ask me the interesting question, whether in a so long experience I have seen many untoward effects following these injections. Many have spoken of abscesses, gangrene, embolism of the lungs, and even of instantaneous death following an injection. So far in thirty years of experience I have never had a grave accident. In a very few cases I have seen abscesses of the gluteal region, which when opened have given bloody serum mixed with metallic mercury. The cause of the abscess is the staphylococcic infection, which may be carried into the tissues, when pustular eruptions are on the skin. In some rare cases the injection forms a hard lump like a shot, which by massaging and bathing with hot water gradually disappears.

In a few instances I had my attention called to the action of the iodide of potassium, when taken internally, on the injections made with gray oil. The gluteal regions were perfectly smooth and soft in spite of twenty-two injections with gray oil. After the injections were stopped the patient begun to take internally iodide of potassium. After a short time the gluteal regions were tender and the places of the injections could be felt hard and lumpy under the fingers. This peculiar effect of the iodide of potassium on the injections of gray oil I have observed in several cases. It seems that the iodine has a tendency to combine with the metallic mercury, which is found in the tissues.

In some cases especially in women with abundant panniculus adiposus, the injection probably did not reach the muscles, and a hard lump has remained in the skin. This has never formed an abscess, but a brownish irregular infiltration of the skin has remained, which is also tender to the touch. In these cases I have made a deep opening, with the curette scraped off the contents in the tissues, and then packed and obtained the recovery for second intention.

These untoward effects are nevertheless certainly not of such a nature as to make us renounce the most precious and valuable method of treatment which we have for the most deleterious disease of the human race.

THE THERAPEUTIC TEST OF SYPHILIS.

JEREMIAH METZGER, M. D.,

Toledo,

Late House-Surgeon to the New York Skin and Cancer Hospital; Member International Dermatological Congress.

[Read before the Ohio State Medical Association.]

The designation therapeutic test does not please us as physicians—it is unscientific and compromising, but as with so much else in medicine that is unsatisfactory, it is a fixture. However, what I shall have to say regarding the therapeutic test must be understood to stand unqualifiedly for mercurialization, for without mercurialization there can be no test, so far as syphilis is concerned; and by mercurialization is not meant only the administration of mercury, but the administration of mercury to the therapeutic limit. The term then at once conveys the fundamental purpose of this paper.

The scientific features of the test are by all means not the determining factor in the desire to present this subject, but a realization that we must make the most of an ever present and much used method of differential diagnosis, and an effort to correct the source of some error, because of a misconception concerning the method. Some misgiving and apprehension in presenting a paper on so trite and supposedly well understood a subject, has been neutralized by the fact, that the subject-matter has to do with a condition of as much general interest as syphilis.

It is with what might be characterized as diligent activity on the part of writers, that anything approximating detailed information anent the differential diagnosis of syphilis by the application of the therapeutic test, has been avoided. An industrious search of the literature fails to reveal any information, except a mere statement of fact by a majority of authors in divers works, as a method of diagnosis to be employed. This mere mention warrants, I believe, some consideration of absolute plans of procedure. Its indications are obvious, but its method of application in the special field, which I propose to make its limits is a matter of obscurity, and should be of practical interest. I disavow the necessity of this method of diagnosis in the functional manifestations of syphilis, believing that the so-called secondary syphilides, and some of the tertiary lesions should be diagnosed as such, without resort to mercury. The therapeutic test then should be reserved for the graver organic lesions, involving the integrity of an organ, and

embracing for the greater part those of the buccal cavity, the eye, the brain, the larynx, the testicle, and the phagedenic and ulcerating lesions of the body, where a confusion in diagnosis has arisen; confusion in the diagnosis of these lesions does often arise; and where the results of mercurialization are negative, the diagnosis of malignancy is most often made. This fact is of the gravest import, and its gravity is disturbing in direct proportion to the enormous increase in malignancy, e. g., the vital statistics of New York State (1) show an increase from 33 deaths in 1885 to 86 deaths in 1908, per 100,000 population.

The conception of this paper was fostered by a personal and impartial observation at the New York Skin and Cancer Hospital covering a period of twenty months, where ample opportunity was afforded in the study of just such conditions as will hereinafter be presented; where errors in diagnosis because of misapplication of the therapeutic test were painfully and surprisingly in evidence; on the other hand, where the value and possibilities of mercury were fully appreciated.

Any treatment for a condition involving the integrity of an organ should be a matter of common knowledge, and the best and most rapid method for combating such a condition should be understood. While the therapeutic test, generally speaking, is a matter of common knowledge, the principles of its application in detail is a matter of common ignorance. The prevailing idea about the test centers in mercury and the iodides, with never a thought of how or why, this in turn leading to false conclusions and harmful treatment. There are cases of syphilis that have never been diagnosed as such, because of this misconception about mercurialization. I venture the remark here that many a tongue has been sacrificed, because carcinoma has been the diagnosis, after a given lesion had not responded to a few haphazard doses of mercury. Except that the tongue was not removed, exhibit one is a striking example of the point in question.

The occasions demanding the use of the therapeutic test are those where the time element in determining the identity of a given lesion is the most important factor in the subsequent successful treatment, in case of a negative result.

The recent impetus given to the study of syphilis and its many problems in the demonstration of the etiological factor by Schaudinn and Hoffman, and the subsequent exhaustive studies of Metchnikoff, Finger, Neisser, and many others, has given us the refined and perfected Wasserman

reaction, and more recently the dark field illuminator, as diagnostic methods, but one familiar with the technical knowledge involved in the use of either will readily agree, that they are methods in the field of the specialist only. On the other hand, the therapeutic test is available to all, requiring no technical knowledge of application, and has a well established place in our work; therefore we should have something tangible concerning it. Examples of the test are not confined to the diagnosis of syphilis, for anti-toxin is often given to confirm the diagnosis in a suspected diphtheria, and quinine in a suspected malaria.

In view then of these preliminary facts my first premise is, that for diagnostic purposes mercury should be given hypodermatically, because all lesions of syphilis respond more quickly to this method of administration; second, that the preparation used shall be calomel, because lesions respond more quickly to this form of injected mercury.

As to the first of these propositions, it is generally conceded that the hypodermatic method is the method of rapid results. Exhibit one is one of many instances substantiating this assertion. Referring to the second: Calomel has a curative effect on all lesions of syphilis, and while there have been reports of lesions unresponsive to calomel, I believe the amount given to have been insufficient. The action of calomel is energetic and quick, the rapidity of its action being more than anticipated. Its therapeutic intensity comparatively studied is often mysterious. No less an authority than Fourmrier² asserts that some lesions of syphilis will react to no other form of mercury; it occupies the position of a court of last appeal, and when used it is in anticipation of a more rapid action than that obtained from the use of other preparations.

It is evident from the foregoing that the time element is, as before stated, the important feature in the differential diagnosis of lesions of a doubtful nature, and if after a reasonable amount of hypodermatic mercurial administration the leucic nature of the lesion is not verified, other suitable and indicated measures can be instituted. Where malignancy is the diagnosis, and this unfortunately is the diagnosis in a great majority of the cases, there is some possibility that surgery will avail, whereas if pills or inunctions had been used to disprove the syphilis, the time involved would mean that the lesion had passed from a probable removable and curable stage to the irremovable and incurable.

(1) Eugene H. Porter, Commissioner of Health, New York State: Personal communication.

(2) Fourmrier: Treatment and Prophylaxis of Syphilis, page 120.

We must be radical with mercury in syphilis just as we are radical with surgery in malignancy, notwithstanding the offerings of some worthy alienists, who attribute the prevalence and increase of the para-syphilitic conditions to mercurialization, and not to the syphilis itself. In this connection it is interesting to note, that the most recent observations of Lesser and Blaschko³ of Berlin in tabulating and verifying the accuracy of the Wasserman reaction in over 3000 cases of syphilis, lead them to the belief that heretofore syphilitics, as a rule, have been under-treated; that the serum diagnosis of syphilis is an index to the existence of the disease; and that a positive reaction of the serum has been changed to a negative reaction by energetic mercurialization. Notwithstanding the warning note of the

On the one hand, exhibit I, consisting of a photograph and three wax models labeled A, B, and C, is an example of a hyperplastic glossitis of syphilitic origin, wherein the patient had been



(A) Before Treatment.



(B) After Three Injections of Calomel.

alienist, it appears that if we wish to cure our patients of syphilis, we must give them more mercury than has been the custom!

(3) Lesser and Blaschko: Deutsche Medizinische Wochenschrift, for March 4, 1909, Berlin.

given the so-called therapeutic test, by an altogether illogical dose of mercury by the mouth, and because of no improvement the diagnosis of malignancy was made, and the patient was referred to the hospital for extirpation of the tongue. The photograph was taken June 21, 1907; the three models were made on June 22, July 16, and July 26; 24 days intervening between the first and second, and 10 days between the second and third—34 days between the first and last.

The first injection of 10 minims of a 10% emulsion of calomel in olive oil, representing 1 grain was given on June 25, followed in 5 and 10 days by injections second and third of a similar amount; 15 days later the fourth injection of 15 minims of the same preparation, representing 1.5

grains, was given; in 20 days the fifth injection of the same preparation, representing 2 grains, was given; patient left the hospital on July 19 with tongue intact and healed; on July 27 a sixth injection of 20 minims of the same preparation, representing 2 grains, was given.

A glance at these figures show that the patient had six injections of mercury, aggregating 8.5 grains of calomel. Models one and two show what was accomplished by practically three in-



(C) After Five Injections of Calomel.

jections of calomel amounting to 3 grains in a period of 20 days—yet this patient had been given the test—a sad commentary upon the knowledge of mercurialization. While it is true that the injections of calomel resulted in some distress to the patient, it is also true that three days after the first injection, he was more than willing to receive other injections because of the marked improvement in the ulcer. After the fourth injection a gingivitis developed, which soon subsided and in no way interfered with the subse-

quent increase in dosage. At this point I cannot refrain from quoting a paragraph in its entirety from Fournier⁴, because of the similarity in the two conditions: "In several cases of tertiary glossitis results were obtained, which would have been almost impossible to effect by pills, iodide or inunction; one of these was a case of hyperplastic sclero-gummatous glossitis which had doubled the size of the tongue on one side, and was deeply ulcerated. This was diagnosed by one surgeon as an epithelioma, but the so-called epithelioma was rapidly cured by a series of injections of calomel; injections of calomel are peculiarly efficacious and powerful in a certain group of specific manifestations."

On the other hand, exhibit 2 (consisting of a photograph showing the involvement of the submaxillary gland and reginal lymphatics, and wax model of the tongue showing lesion on right side, near the tip) represents a pathetically hopeless condition that was referred to the Skin and Cancer Hospital for operation. This case is especially potent in pointing to a danger from the opposite direction, inasmuch as he was given pills for five valuable months without any effect, and as a result of this inactivity the progress of the growth had been so great at the time patient presented himself at the hospital, as to preclude the possibility of any benefit from surgical interference. Considering the location of the lesion on tongue, the prognosis for operation done early was exceptionally good had the tongue and regional lymphatics been removed. Carcinoma is a local, removable and curable condition at some stage of its development.

These two exhibits are but two of many similar example of just such errors in diagnosis, traceable to one and the same misconception regarding mercurialization, and from them two lessons should be well learned, in connection with the therapeutic test. First: Mercurialization, and not mere mercurial administration is the object sought. Second: When saturation is attained with no benefit to the patient, a hasty resort to other methods for relief. These two examples have been made examples only because certain fundamentals regarding mercurialization seem not to have been appreciated.

In conclusion, I wish to acknowledge the kindness of Dr. William Seamen Bainbridge of the New York Skin and Cancer Hospital, from whose surgical service these two cases were taken.

(4) Fournier: Treatment and Prophylaxis of Syphilis, page 121.

DISCUSSION.

J. W. Miller, Cincinnati: I have always been interested in the subject of deep injections in syphilis, and I firmly believe that they should be used in syphilis, but not as a routine measure. I personally have used the gray oil and bichloride. The bichloride acted very nicely in obstinate mucous patches, almost similar to antitoxin in diphtheria. Cases in which I was unable to do anything, after having used drugs and all kinds of local treatment, would clear up nicely after injections of bichloride. The objections to the use of intramuscular injections of mercury are the pain that is often caused, and the element of danger which is always present. Last year two deaths were reported from the use of gray oil. I think if a urinalysis is made before using the deep injections, we would not meet with these grave accidents. If we find albumin in the urine, of course we would not think of making the deep injection of mercury. In cases where we wish to make a rapid diagnosis, as, for instance, to differentiate carcinoma of the tongue from gumma, we are always justified in using the gray oil or bichloride.

J. E. Tuckerman, Cleveland: I just wanted to comment upon Dr. Heidingsfeld's remarks on the diagnosis of syphilis by these reactions and methods. These reactions are so delicate and so complicated that those who have not done any blood work do not appreciate the care that has to be taken to get accurate results, and it is largely out of the question for a man in general practice to figure on making a diagnosis by these methods. What we may find out by these methods should be absolutely determined before we endeavor to rely on them in making a positive diagnosis.

C. M. Harpster, Toledo: I just want to mention a simple point in the technique of treating syphilis. In making a deep injection in the gluteal region, give a quick plunge of your needle, and you will have no pain. Before you press in your solution, remove the syringe from the needle, and if you have entered a vein or blood vessel you will take blood in through the needle. Remove the syringe from the needle if you have entered a vessel. You will find that it is a simple point that will often save you a great deal of trouble.

A. W. Nelson, Cincinnati: Recently I have heard quite a number of papers read and discussed in favor of the injection method, but I must say that I have not heard anyone state that it is more effective in preventing relapses, or that it is superior as a curative measure, or that the duration of treatment until a cure is obtained is shorter than by the inunction or internal methods. It is admitted to be more intense and that it controls the symptoms more readily than do the other methods.

Practically speaking, every one is more or less biased, and in favor of a certain method or technique. This was well illustrated to me in the New York Post-Graduate Clinic, where several men treated syphilis. Some were advocates of internal medication, others favored inunctions, while still others preferred the hypodermic mode

of treatment. Each advanced excellent reasons for his preference, at the same time also believing that by following a certain routine he received the most favorable results. I believe that Fournier and Keyes advise internal medication in the ordinary run of cases, and reserve the injections for the more severe type of cases. They do not, however, limit themselves to one particular method, but select the treatment according to the cases presented.

A. W. Nelson, Cincinnati: That certainly ought to appeal as the most logical procedure. I believe that we ought first to consider the patient and then the method, instead of laying the entire stress on the method alone.

While Dr. Ravogli reports such successful results, we must not forget that such results do not always follow our efforts, and that we may produce an extreme degree of salivation in our first or second case.

In the March issue of the American Journal of Dermatology and Genito-urinary Diseases, Dr. H. M. Christian of Philadelphia, in a very able article, gave his experience with the inunction method, later followed by the internal medication, etc. It seems to be a very good method for ordinary cases, as there is very little danger of an abscess or severe salivation. Dr. Christian states that he has given the inunction and injection methods a six months' trial in the syphilitic ward of the Philadelphia General Hospital. He divided his patients into two sections; one section was treated by means of the hypodermic method, while the other was treated by the inunction method. He claims that if there was any superiority at all it was in favor of the inunction method. I would like to hear from those who have given this a trial, as Dr. Christian has.

T. M. Reade, Springfield: We are fortunate today in being favored with the presence of such eminent masters of our art and in hearing from their lips the story of their great labors in the conflict with the deadly foe, syphilis. May we live in the hope of seeing at least the dawn of its decline, a consummation to which their eminent services have so largely contributed.

M. L. Heidingsfeld: I wish to compliment Dr. Metzger on his very interesting and valuable specimens, and instructive paper. Anyone who is familiar with this work will appreciate the amount of pains required to do it successfully, and the specimens are some of the best I have ever seen. I wish to cite a case from personal experience. I recently saw a young man of 32 years whose penis was amputated, and in whom syphilis was suspected; if the treatment had been carried out along the lines the doctor indicated, a different story would have been recorded. He had an unmistakable manifestation of syphilis on the forehead, and the doctor suspected syphilis at first, but was not successful with his half-hearted treatment.

In regard to the bichloride injections, by experience has been that the results are not permanent, and patients have had recurrence. This is due, not so much to the remedy itself, as to the relatively small dosage; bichloride is a remedy which acts very promptly, but can be injected in only one-

fourth grain doses with safety. If you want quick results bichloride is the best remedy to give, but it ought to be administered in small doses or you will get a very pronounced reaction.

I think that permanency of result is due more to the amount of mercury given than to the preparation itself. I am strongly against the bichloride injections, and have discarded them except in rare instances. A case has come to my notice where a man was given bichloride injections, where there was a necrosis of one entire buttock. These injections were given by an experienced man, whose technique was correct, and the dose not excessive. If I had one experience of that character, I would never use bichloride injections again.

In regard to whether we use one form of mercury or another, it does not make much difference. One may act a little more promptly, but this is a matter of personal opinion. I think any form of mercury in large enough dosage will do the work.

I have been obliged to discard Lang's formula because of the danger of embolism, local reaction, etc. Any insoluble, semi-fluid solution is dangerous if you enter a vein; removal of the syringe from the needle does not entirely obviate the danger.

For the past seven or eight years I have been using a preparation of equal parts of metallic mercury and lanolin, by weight, from which I have never varied. It is not painful, and the patients never object to the treatment. I have used it in private, clinical and hospital practice, and the results have been all that can be desired. Schmidt, of Chicago, sometimes uses 5 minims. to an injection, which speaks for its safe, non-irritating character. The preparation is semi-solid and absolutely stable, which obviates the danger of embolism. I have used it thousands of times, and have never seen the slightest untoward result.

The internal treatment has its objections. You cannot give internal remedies without producing gastro-intestinal disturbances, if not at the time, at least in time to come; the worst syphilitics I have to deal with are patients who have had five or ten years of internal treatment.

The inunction treatment is all right if they can be conveniently and effectively carried out. I give fifteen injections to each course of treatment, and three courses the first year, two the second year, and one the third year.

Inasmuch as iodide of potash does produce furunculosis and acne over those areas that are slightly irritated or inflamed, I never prescribe it when giving mercurial injections. I have never seen any local disturbance from injections, with possibly one exception, where the patient had a fall on the buttock. An abscess formed in that case.

HERNIA.

W. D. HAMILTON, M. D.,
Columbus.

[Read before the Ohio State Medical Association.]

Between January 1, 1907 and April 1, 1909, 110 patients have been operated upon for hernia in the service of Dr. Charles S. Hamilton and

myself, all but thirteen of them in the Mt. Carmel Hospital. There were three deaths and 107 recoveries.

An allusion to the fatal cases, whose ages were seventy-three, fifty-eight and fifty-seven respectively would be instructive.

They were as follows:

In two of them strangulation was present.

Mr. J. W., age seventy-three, a patient of Dr. D. N. Kinsman, of Columbus, had a strangulated femoral hernia of a few days' duration and was greatly prostrated from it. At the time of his operation, January 30, 1907, the small intestine was found to be badly damaged at one point, from the constriction to which it had been subjected. The injured portion having been invaginated, was enclosed by sutures and a lateral anastomosis made between the segments of intestine contiguous to it. The sac was excised and a radical operation done. His condition at the time seemed to invalidate excision of the injured intestine. Death occurred a few hours after operation.

Mr. A. S., age fifty-eight, a patient of Dr. George C. Schaeffer, of Columbus, operated upon September 15, 1908, was a confirmed invalid from chronic nephritis and advanced cardiac lesions on account of which he had been incapacitated for some months. A radical inguinal herniotomy was done under Schleich's anesthesia, after relieving the strangulated enterocoele present. After a non-febrile course of one week, while planning to return to his home on that day, he died suddenly from what we supposed may have been embolism, though there was no autopsy to prove or disprove that hypothesis.

The only case in which a radical herniotomy in itself was followed by death was as follows:

Mrs. S. J. W., aet fifty-seven, a patient of J. M. Thomas, of Columbus, had a very large irreducible umbilical hernia. She was extremely stout, a fact which, with her hernia, was making her quite helpless. A radical operation was done on October 13, 1908. A considerable mass of omentum, a large portion of the colon, and numerous adhesions were encountered in the sac. We finally resorted to Trendelenberg's posture in order to return the everted structures. She never recovered consciousness after ether anesthesia and died within twenty-four hours, with hemiplegia and almost complete suppression of urine. She had been subjected to careful physical study during the few days prior to her operation, and it was thought best to give her operative chances, though they did not seem promising.

So with reference to prognosis in cases of her-

nia, advanced age, arterio-sclerosis, stoutness of the patient and size of the hernial protusion are often, of course, invalidating circumstances.

On seventy-eight different occasions operations were done for inguinal hernia, nine of them being cases in which the same lesion was found on both sides thus requiring double operation.

There were fourteen patients operated upon for femoral hernia and in one case it was bilateral.

There were seven operations for umbilical hernia by the Mayo method.

There were fifteen patients operated upon for ventral hernia, one of them requiring, on account of a small recurrence, a second operation.

Twelve patients were operated upon for strangulated hernia, mostly inguinal, the ages of seven of them ranging between sixty-one and seventy-four. In several of them resection of the intestine of varying degrees was performed, with either, end to end, or lateral anastomosis. Where the patient's condition permitted, a radical operation was done, after relief of the strangulation and the correction of its results.

Suppuration following the various types of radical operation for hernia, was not often seen. Kangaroo tendon and catgut were chiefly relied upon for suture, while in the ventral herniae, silk worm gut was used for stay sutures. In four cases of strangulated hernia, radical operation was not done, owing either to an extremely enfeebled state of the patient, or the necessity for deep drainage at the site of operation; or for both reasons. Careful study was made in the individual cases to see whether the invalidating influence of urethral, vesical, intestinal or pulmonary disease could by their presence endanger a radical cure. Where the cause permitted of correction, it was first removed to minimize the risk of recurrence.

The average time in which patients were kept in the recumbent position was about two weeks and a half. In a general way it may be stated that Ferguson's method was employed in inguinal hernia with occasional modifications. Transplantation of the neck of the sac in accordance with Kocher's suggestion was sometimes used. In femoral hernia the circumjacent fat was removed, and the sac having been isolated was either ligated and returned or amputated. Poupart's ligament was usually secured by two or three sutures to the pecteneal fascia or muscle. With reference to operations for ventral hernia of which there were fifteen, the parietal tissues were first freed from omental or visceral adhesions and then clearly defined by dissection, for a sufficient distance from the edges of the wound

to make ready coaptation without tension feasible. Though some of these ventral herniae were quite large, the results secured seemed admirable. Intra-abdominal tension had been minimized by careful physical preparation of the patient before operation.

In seven cases, inguinal hernia was complicated by undescended testicle. The treatment of the testicle depended upon its location and condition. Where practicable, an operation, usually Bevan's, was done for its transplantation to the scrotum. In three instances the testicle was removed, it being atrophic or very imperfectly developed, and apparently not amenable to transplantation.

By way of general comment it might be stated that radical cure was attempted by operation in any and all of these, the common varieties of hernia, wherever there seemed to be a fair chance for its correction, especially if irreducible, or if not controllable by a truss, or in cases of strangulation, where permissible. On the other hand a great many individuals were operated upon to get rid of the bother of wearing a truss.

Patients with constitutional syphilis showed occasional tendency to suppuration, in spite of the usual precautions that belong to a good surgical technique. One of us, however, has seen within a few days a man operated upon by one of us seven years ago, who shows a radical cure of his hernia, although syphilis and tardy wound repair had seemed to endanger the result at the time of his inguinal herniotomy.

In some of our cases the procedure was rendered more difficult on account of the alteration of the tissues from the previous employment, usually by charlatans, of injections, or from the use, in the patient's hernial tissues of paraffin, which of course when found, required removal before doing a radical operation for cure.

The more clearly and gently the anatomical structures involved in a hernia are defined by judicious dissection, the better the chance for coaptation without tension. It is quite as important that the size and quantity of the buried suture material should not be excessive.

If one is justified in deriving any inferences from such a series of one hundred and ten cases it would seem as though the operative risk in uncomplicated cases of hernia requiring the radical procedure is very slight indeed. While the relative rarity of recurrence seems to have been evidenced by the fact that frank failure of the operation has only twice come to our knowledge. Our inference is that a cure, or a high degree of improvement must have resulted in most of the cases.

In some individuals with very attenuated ab-

dominal walls, it may be advisable for them to wear permanently after herniotomy some form of abdominal support. The habitual ingestion or the imperfect mastication, of an excessive quantity of food, may especially in the cases of children operated upon for hernia, by the meteorism which it produces, jeopardize operative results.

The importance of restoring the parts to soundness, in ruptured men and women who work, argues the more frequent resort to operation for radical cure where feasible. While trusses may cure some hernia in children, in adults in a limited number of cases, a radical operation may have to be attempted in order that even a truss can be worn, in cases where on account of the extent and character of the hernia, cure does not seem to have been possible of practicable at least from operative effort.

Under this last heading, even though the operation may demonstrate the impracticability of radical correction, the patient may as the result of the operation, be able to prevent or control the protrusion by wearing after operation some mechanical device. No effort has been made to describe or to indicate other operative procedures which were in some cases performed at the same time.

The omentum was treated in operations in a conservative manner. After having dealt with adhesions, if such there were, amputation of it was seldom done. Where the omentum was somewhat ragged in appearance, such repair by suture was used, as would close any apertures in its substance, without gathering it into an unwieldy mass, thus making its return to the abdomen safe. In one of the cases of strangulation, a large left inguinal hernia in a Mrs M., aged fifty-five, a patient of Dr. Shook, of Canal Winchester, operated upon December 2, 1907, gangrene of the ileum required excision of between seven and eight inches of the gut and lateral anastomosis as well. Nearly the entire omentum, too, had been subjected to the strangulating influence of the hernia. Believing that it might recover its vitality, it was returned to the abdomen. Suppuration followed, and eventually the omentum was discharged en bloc through the hernial aperture having become a huge slough. Much of the operative work in her case was done on account of her weakened condition under local anesthesia. She made a good recovery and is now in excellent health, though her hernia still uncorrected, requires the employment of a truss, she having been advised by one of us to return to the hospital for radical herinotomy and cure.

N. B.—The operation was repeated in each of the two instances of known recurrence, viz., one ventral, one inguinal, with apparently excellent results.

DISCUSSION.

Dr. Goodhue, Dayton: This valuable paper presents a subject of practical importance. It is a subject that will be forced upon the observation of both the physician and surgeon, whether he will or not, and consequently it is a subject that appeals to us for consideration. When you consider that one-tenth of the human race is afflicted, and that one in every 600 deaths is due to it, to say nothing of the problem of wearing a truss, and the economical question that comes up in the way of inability to earn a livelihood in many cases, it becomes an important question for consideration, and I am very glad that this subject has been chosen today and presented so ably before you. It has been an old subject, first considered by Hippocrates, and Celsus said: "Cut down on it and ligate the spermatic cord." Sir Ashtey Cooper taught us the anatomy of the parts and advocated the operation, and perhaps our own Marcey has done more than any other man, that man who appeals to us every time we think of him, gentle but strong, whether it be in regard to municipal reform or in the way of advancement of our profession—he it was who first taught us that we should restore the parts to their original and intended form; he taught us to restore the obliquity of the canal.

I, however, want to say just one word, and that is in regard to the proper operation for inguinal hernia. There is some difference of opinion as to the best operation for femoral hernia, but in regard to inguinal hernia, there is but one operation, with possibly an exception now and then. I have reference to what is known as the Ferguson operation. That is called the anatomical operation. It consists, as you know, in allowing the cord to remain without disturbing it from its location, lessening the liability of doing damage to the blood vessels which supply nutrition to the testes and cord. And besides that, it has in the hands of many operators given the success we desire. You know for four or five years some used Bassini on the one side, and Ferguson on the other, and the results were equally as good. I think wherever it is possible for us as surgeons to select one form of operation and become uniform in our work, the better and more perfect will become our operative work. This operation, as you know, consists in moving the internal oblique muscle over to Poupart's ligament, sewing it down two-thirds of its way, which has been proven by autopsies to be the proper condition that should exist. The same is true with regard to the female, where inguinal hernia is rare. There is possibly one little deviation Ferguson has omitted, which has been called to our attention by some one from Oshkosh, pushing the cord upward and putting in a stitch or two at the lower and inner border of the transversalis fascia, thereby elongating the inguinal canal. I think that was accidentally omitted in the Ferguson operation as last

described, because if you will read his combined operation in 1895, you will see that he particularly mentions sewing of the internal ring at its lower and inner border.

Dr. Warner, Columbus: There is just one point I want to call attention to in the radical operation for one class of hernia—the inguinal—and that is that in some of the operations, even with the Bassini method, unless the sac is cut off high up it seems to me you are quite as apt to have recurrence as you are with the Ferguson method of simply transplanting the internal oblique and transversalis over to Poupart's ligament. Of course, that has been covered time and time again, yet it is one of the things I failed in in the earlier operations, and I find now recurrences are much less frequent, and from the Bassini method I have gone almost over to the Ferguson method. I wish to call attention to the method of dealing with the sac (illustrating on the black-board). Instead of taking the sac off as high as possible and leaving a cone for the abdominal contents to impinge upon, in these later operations I dissect out the peritoneum pretty well up, draw it down and dissect it loose, not only the sac, but the peritoneum, draw the peritoneum down as far as possible, and tie the peritoneum or the upper part of the sac, then after that take some sutures running across into the peritoneum again, and throwing the point of the cone up this way instead of down, so that it doesn't allow an opportunity for the abdominal contents to impinge upon the sac or to get into a cone.

Dr. Howell: I take the liberty of speaking of two cases, both women, both past the menopause, heavy, fat, large, with umbilical hernias of immense size. The reduction of both was very difficult, the hernias had existed in both over twenty years. At the operation, after removing the sac, the great difficulty was found with the abdominal cavity. It had shrunk to such an extent it was difficult to replace the intestine. In both cases the stomach had descended into the hernia, and in one case the free margin of the liver had descended, and had turned backwards at the ensiform cartilage. The great danger in these operations for large umbilical hernia is the contracted abdominal cavity. When you return the intestines, if you can—I have lately seen a case where it was impossible to do so—you have such an intense intra-abdominal pressure, especially in fat people, that infection in a large part of the cases is inevitable. In both of these cases we had infection. One died, and the other one, after getting practically well, after having passed through a succession of abdominal abscesses here and there over the abdomen, she was sent home. Two months after another abscess developed from this continued pressure from within, the intestines were too large for the abdominal cavity, the fatty tissue was of such poor quality of nutrition and couldn't stand the abdominal pressure.

THE QUESTION OF OPERATION IN FRACTURES AT THE BASE OF THE SKULL.

F. E. BUNTS, M. D.,
Cleveland.

[Read before the Ohio State Medical Association.]

The rules governing operative interference in fractures of the vault are fairly well fixed and generally accepted, but the question of operating in cases of fracture of the base, which at one time was practically settled in the negative, has been raised again and will have to receive new consideration.

In order that the subject may be studied from a reasonable standpoint, the diagnosis of fracture of the base must be made upon symptoms which are generally recognized as specifically indicative of such injuries, so that we may not be led astray by reports of recovery after operations, decompressive, or others in which we are only justified in making a diagnosis of concussion, compression, or contusion and laceration.

Taking up some of the symptoms of most striking character, we have:

1. Bleeding from the nose, ear, pharynx, into the scalp over mastoid, or in the neck below the occiput, and hemorrhage into the ocular conjunctiva. Any one or all of these may occur and no fracture of base of skull be present, but if we can rule out local contusions or lacerations there can be but little doubt as to the injury, and often a very good estimate of the location of the injury may be made since, local lesions being eliminated, epistaxis and subconjunctival hemorrhage commonly signify fracture in the anterior fossa, hemorrhage from the ears, middle fossa, hemorrhage from pharynx and ecchymosis about ear or in tissues of the posterior neck, the cerebellar fossa.

2. Cerebro-spinal fluid. One of the most positive signs of fracture of the base, especially if its discharge from the nose or the ears follows prolonged hemorrhage.

3. Nerve injuries. These are very common in fractures at the base, and where peripheral injuries and in some cases cortical lesions of the brain are ruled out, become strong presumptive evidence of fracture. Thus we have injuries to the seventh or facial with coincident facial paralysis, injuries to the olfactory with disturbance of smell, and diplopia and paralysis of muscles of eyeball following involvement of motor oculi nerve.

4. Sinus injury. A fracture across the middle

fossa may injure both the carotid artery and the cavernous sinus so that an arterio-venous aneurysm results, and symptomatic of this condition we have a pulsating exophthalmos, injury of the cavernous sinus with consequent thrombosis may also cause a marked protrusion of the eyeball, so that the ball of the eye may be practically forced out from between the eyelids.

5. Cerebral symptoms. These are not dependent upon the fracture alone for the fragments are widely separated and can scarcely be depressed so as to cause compression, but they are due when present to the associated lesions, so that we often have the familiar symptoms of compression from hemorrhage or edema, concussion, contusion and laceration.

6. Pulse and respiration. Slowing of the pulse and Cheyne-Stokes respiration, which are so often associated with severe fracture at the base in some stage of its progress, are not, of course, symptomatic alone of this lesion and since they are present in such a wide variety of diseases and injuries, must be given but little weight in making a diagnosis.

7. Spinal fluid. This, when obtained by lumbar puncture often appears bloody, but as laceration of the brain for rupture of artery or vein may give this same finding, it is only to be regarded as slightly corroborative of fracture.

It would appear from a review of these symptoms that eliminating external and local injuries, which might stimulate them to a limited extent, the most positive evidences which we have of fracture of the base of the skull are, the hemorrhages already alluded to and the discharge of cerebro-spinal fluid from the ears, nose, or pharynx, and it seems to me that the next most important sign is evidence of nerve involvement, especially of the seventh. Now what is the prognosis to be expected when, aside from the hemorrhage or discharge from the ear, or when there is a nerve injury as the result of a fracture of the base no other symptoms are present? I believe it is ordinarily good. The nerve impairment may be more or less permanent, but frequently it is entirely recovered from and the greatest danger that we have to fear is infection and the development of meningitis. Obviously primary operation could not be expected to do any good in this, the simplest form of basal fracture, and indeed a large proportion after the first symptoms of concussion have passed get well without any serious disturbance whatever, and nothing but the later development of compressive symptoms, whether from infection or otherwise, would justify operative interference.

Laceration of the brain is a lesion commonly

associated with basal fracture. It may be so great as to cause sufficient hemorrhage to produce compression symptoms, but in the absence of these we must rely chiefly for its diagnosis upon evidence of nerve injuries and upon the obtaining of a bloody fluid from a lumbar puncture, and, too, I think, upon evidence of cerebral irritation, particularly delirium or insanity. From my own experience clinically, I would say that none of these symptoms demand operative interference, there being nothing certain or definite to operate for, and there is nothing, so far as I am aware, as yet, to make us feel that the ultimate results so far as cerebral disturbances would be in any way benefited by an operation of any kind.

Associated fracture of the vault with brain injury or compression will, I believe, always demand operation in the hope that removal of spicula of bone, elevation of depressed portions of skull, evacuation of blood clots or macerated brain, and establishment of drainage and providing for passive or inflammatory edema may save the patient and prevent some of the more serious forms of brain sequelae. And yet, in looking over my case records, it is just this class of cases in which operation has seemed absolutely imperative, that fatalities have been so numerous as to be almost without exception, and the reason is not, as I apprehend, because we operate or because we don't operate, but because the nature of the injury has necessarily been so serious as to render a more favorable outcome practically hopeless.

Compression of the brain is a more or less common accompaniment of fracture at the base and may be due to edema from venous obstruction, as in traumatic sinus thrombosis, to hemorrhage, to pressure of the displaced fragments of the skull itself. Compression may be an early complication, or it may come on several hours or even days after the original injury, and though we have, as yet, comparatively few statistics upon which to base a definite line of treatment, it seems reasonable to consider very seriously the question of decompression operations in all these cases. The degree or the severity of the compression symptoms often depends quite as much upon the location of the hemorrhage, for instance, as it does upon its amount, so that the removal of the clot is not the most important indication, rather it is by timely interference to so relieve the pressure as to prevent an early and fatal outcome. Though the clot may sometimes, as has been done, be successfully removed, it is more frequently inaccessible or so spread out on the base of the brain as to be impossible

of removal. The inaccessibility of a basal clot makes its exact location relatively unimportant from an operative standpoint. Of course, in the presence of an associated fracture of the vault, with pressure symptoms and possible hemorrhage, the site of operation is readily decided upon, but under other circumstances probably the trans-muscular operation in the temporal region will be the most favorable site not only for extensive removal of bone, but possible location of a clot.

Where the symptoms develop gradually ophthalmoscopic examination may give the first serious danger symptom in the beginning development of choked disc, and in its presence I do not believe that operation should be delayed. That not all severe cases of compression demand decompression operation may be illustrated by one of my recent series of brain injuries, in which the gradual supervention of epileptiform convulsions and finally coma, with slowed pulse and stertorous breathing determined me upon doing a decompression operation, but preliminary to this I did a lumbar puncture, removing a considerable amount of spinal fluid, and his symptoms began to improve so soon afterward that no further operation was done and a perfect recovery, mentally and otherwise, resulted.

During the past few years I have had under my own care twenty fractures of the base of the skull.

In most of these the diagnosis could be readily decided upon from the presence of the cardinal symptoms alluded to. In some it was cleared up or corroborated at autopsy. The column devoted to operation or non-operation does not necessarily mean a typical decompression operation, for while that was undertaken in one instance, the operation was usually for another injury, such as fracture of the vault. In view of the almost uniformly bad showing made for the results in operated cases I simply wish to call attention to the chief symptoms present, which emphasize a previous statement made, that the operation was undertaken in exceptionally bad cases when associated injury of skull and brain were present. I do not wish to shirk any possible criticism of technique leading to such a fatal array of cases, but to state that it is my belief that the operative disclosures in all of them made it evident that they were primarily fatal. The criticism which I have to offer is that surgical judgment should have shown me beforehand that a favorable outcome was impossible, and yet it often seems that it is in the face of the seemingly hopeless things that we refuse to acknowledge that there is no chance, and operate because he will surely die if we don't.

Of the twenty cases here tabulated, ten died and ten recovered. Of the ten fatal cases, seven were operated upon. Of the ten cases recovering, only one was operated upon. Of the three fatal cases dying without operation, two showed no compression symptoms except unconsciousness, and there is nothing in their histories to make it probable that a decompression operation would have helped them. In the cases that recovered, severe compression symptoms in one and slight compression symptoms in several were satisfactory in their outcome without operative interference other than lumbar puncture in one case.

I have no doubt but that the results would have shown a much more creditable statistics from a purely surgical standpoint had all these cases been operated upon by a decompression operation; that is to say, the cases that did get well would possibly have recovered if they had been operated upon, but what I maintain is this:

1. Simple cases of fracture of the base of the skull without severe laceration of the brain practically all get well without operative interference.

2. The greatest cause of danger in these cases is from septic meningitis and operation cannot prevent this complication, but rather adds to its probability.

3. The bad cases, complicated by a bursting fracture of the skull with an extensive laceration of the brain, practically all die.

4. It is in this class of cases that operations such as removing spicula of bones, crushed brain, etc., are most frequently resorted to, but usually without avail.

5. Distinct compression symptoms coming on immediately after the injury without obvious evidence of extensive brain laceration would probably be deserving of decompression operation, for they might be due to hemorrhage and be susceptible of relief or arrest.

6. Late symptoms of compression with beginning choked disc might be due either to hemorrhage or edema, and should be subjected to immediate operation, though in the one case in which I had an opportunity to follow this plan, operation and subsequent autopsy showed no clot, very slight hemorrhage, but extensive laceration of the brain, not only in the lowest frontal convolution near the site of fracture, but in the occipital region far from the fracture the laceration of the brain was even greater than in the frontal.

7. There are insufficient available statistics as yet to show that decompression operations hasten the recovery after fracture of the base, or lessen subsequent liability to cerebral disturbances.

No.	Length of time in hospital	Symptoms	Operation.	Result
1	13 days	Bleeding from right ear; semi-con. persistent for four days; paralysis of right side of face.	No	Recovery, paralysis disappeared.
2	2 days	Bleeding from ear, nose, and mouth; conscious; pupils equal; resp. 40, pulse 120; no paralysis.	No	Died
3	2 days	Bulging of eyelids, both sides; hemorrhage from nose.	Yes (Trepphine, removed clot)	Died
4	1 day	Unconscious; breathing stertorous; pupils unequal.	Yes	Died
5	1 day	Fracture of sphenoid and ethmoid. Brain tissue in frontal lobe destroyed; cranial cavity filled with blood.	Yes	Died
6	1 day	Coma, muscular spasm every five minutes, pupils dilated and equal.	Yes (Exp.)	Died
7	1 month	Internal squint, bleeding from mouth, nose, and ears; pulse slow; mentally dazed (muttering); facial neuralgia.	No	Recovered except paralysis. Sent to City Hospital
8	1 month 5 days	Hemorrhage into conjunctiva, semi-conscious, restless.	No	Recovered
9	22 days	Unconscious 16 hours, paralysis sixth nerve and facial seventh nerve.	No	Recovered
10	3 months 18 days	Unconscious, left pupil fixed, stertorous breathing, bleeding from nose, mouth, and ears, spasm of legs and arms.	No	Recovered
11	1 day	Paralysis, stertorous breathing, slow pulse, hemorrhage from nose and ears.	No	Died
12	1 day	Unconscious, hemorrhage from ear.	No	Died
13	5 weeks	Semi-conscious, pulse 70, hemorrhage into conjunctiva, bleeding from nose, proptosis right eyeball, dilated right pupil, paralysis ext. rectus.	No	Recovered
14	1 day	Unconscious, both pupils dilated, deep respiration, slow pulse, general convulsions.	Yes	Died
15	1 day	Unconscious, bleeding from ears and nose, ecchymosis into conjunctiva, respiration 72.	No	Died
16	2 months 24 days	Ecchymosis into conjunctiva, bleeding from nose and ears, unconscious.	Yes	Recovered
17	1 month 17 days	Bleeding profusely from right ear, unconscious, no paralysis, ecchymosis in right conjunctiva.	No	Recovered
18	17 days	Bleeding from nose and left ear, unconscious.	No	Recovered
19	15 days	Bleeding from mouth, nose, and both ears, left conjunctiva ecchymosis.	No	Recovered
20	6 days	Unconscious, ecchymosis into eyelid and conjunctiva, vault fracture. Later symptoms: coma, bloody spinal fluid.	Yes (Decompression)	Died. Autopsy: brain lacerated

Total, 20; lived, 10; died, 10; operated, 8; not operated, 12. Of operated cases, 7 died and one lived.

DISCUSSION.

James Donnelly, Toledo: I have looked over the record of my cases from January 1, 1900, to the present time, of brain injuries, and I find that my brother and myself treated forty-seven cases classed as brain injuries, and of these forty-seven cases twenty-two died. Understand, these are not basal fractures as yet. Of the forty-seven cases, twenty-two died, or a mortality of 46 per cent., and twenty-five recovered, or a recovery of 44 per cent. Of the forty-seven cases, thirty-four were classed as fractures of the base, with fracture of the vault. In that series of cases twenty-one died, with a mortality of 63 per cent, and thirteen recovered, or 37 per cent. recovered. Now, twenty-one of the thirty-four cases, classed as fracture of the base and vault together, twenty-one were operated, and twelve died, mortality of 60 per cent.; and nine recovered, 40 per cent. Now, of the thirteen cases that were not operated, eight died, 60 per cent., and five recovered, 40 per cent. So that in the comparisons of the cases that were operated and those that were not operated, the percentage of recovery is exactly the same. There were thirteen cases classed as concussions or fractures of the vault, of which one died and twelve recovered. In this series of cases it is hard to make comparisons, because some of these cases of fractures of the base were patients who were practically dying when brought into the hospital; some of them lived an hour or a few hours, and practically nothing was done in some cases except to control hemorrhage and elevate the depressed fractures. The fractures, as observed, were mostly in the middle fossa, and next were fractures of the middle fossa, combined with fractures in the occipital fossa, and the fewer fractures were in the anterior fossa. One of the fractures of the anterior fossa that terminated fatally was in an amateur boxer. In the sixth round he was struck on the right side of the face. He was stunned temporarily and had nosebleed, but continued with the boxing bout until the eleventh round. He drank a glass of beer and went home, and during the night was taken with vomiting, and all the time he continued to have some slight nasal hemorrhage. The next day he had pain on the opposite side of the temple or face and frontal region, and this condition went right along, and I saw him at the end of a week. I had him in charge two days, with Dr. Hubbard, of Toledo, and we sent him to a hospital. In the meantime he had persistent headache on the left side and elevation of temperature, bordering along 101. We made a flap operation and trephined along into the anterior fossa and removed a quantity of pus, probably forty-six drachms. The case went on, with meningeal disturbance and infection, and he died the next day.

In the fractures of the base, there was one in which the sixth nerve seems to have been involved, and there were others in which the facial nerve was involved. One of the patients, Mrs. F. R., with the severest paralysis of the seventh nerve, fell from a street car, striking the side of the face, and we found on the left side a hematoma or considerable ecchymosis about the back of the left ear on the left side of the face, with paralysis of the seventh on that side. I opened and drained. She made a recovery, but by the

time she passed out of my observation the paralysis had not returned. One of the other cases was a boy, seventeen years of age, who was playing ball on Sunday and was struck on the left side of the head with a baseball. Complained of pain that afternoon and was unable to continue with his work during the week on account of the persistent headache, and on the Saturday following developed convulsions and some ptosis of the left eyelid. I trephined above and slightly in front of the ear and removed a subdural clot, not more than four drachms, but he had one convulsion after the operation, and that was the last. The boy went on and made a very nice recovery.

Another case that was operated was G. B., aged thirty-four, who, while in a state of intoxication, fell on the sidewalk, striking upon the left side of the head and lacerating the ear. He came into the hospital about 10 o'clock in the morning, and there was bleeding from the tissues of the ear, but I didn't know at that time that he was bleeding from the ear itself. Later on in the day he developed coma, and the bleeding became irregular, pulse running up to 160, and I opened behind the ear on the left side and removed an extradural clot of two and one-half ounces, and he made a good recovery. In these cases the indications for operation were fairly positive. I had, however, two other cases in which there were no focal symptoms, and that were a trifle puzzling to me even now as to what would have been the best thing to do. E. C. was a conductor on one of the street railways. Late at night, after they had finished their work and going into the barn, and getting out of the car on the right side, while standing on the platform, in some way lost his hold and struck heavily upon the back of his head. I saw him in an hour, probably later, at the hospital. He was restless, with pupils not contracted, or, if contracted, very slightly. He was moaning, restless, respirations about normal, temperature about normal. There were no focal symptoms that we could observe; no paralysis at any point. This condition continued for five days, when he died. At the time I was unable to detect any fractures—that is, I didn't think there was any fracture. I classed it at first in the nature of concussion. A postmortem examination, however, showed that there was fracture of the middle fossa, and that there were slight hemorrhages throughout the brain—that is, the largest hemorrhage wouldn't be much bigger than half the size of an ordinary sized pea, but there were several points scattered throughout the brain, which indicated that he had had hemorrhages. There was also in this case a large amount of serous fluid in the ventricles, and this was a little bit before the time of the decompression operation, and I am inclined to think that if I had a case of that kind again that I would probably perform a decompression operation.

Now, R. W., while riding on the back of a street car, in making a slight curve, the car going at a rapid rate of speed, was thrown back, striking upon the back of his head. He went on and died in three days. I class these two cases alike. I was not permitted to make a postmortem of R. W., but the symptoms were very identical, and I believe he had a fracture at the base.

In a general way my observation has been that

we should make an attempt first—I am speaking now broadly of basal fractures—to locate the fracture, whether the anterior, middle or occipital fossa is involved. I believe that if there is a fracture and there is consciousness for a short time after the receipt of the injury, and that either unconsciousness or coma develop, that that would be a case in which operation would be clearly indicated. I do believe, too, that where we have high tension and indications of depression, the same as Dr. Bunts has mentioned, that decompression operation would be advisable, and my observation would lead me to believe that some of these cases that do die would be relieved if an operation were made. In none of these cases in which we have an extradural or subdural hemorrhage it is not always clearly indicated that a decompression operation might be of some assistance. The basal fractures we will call a serious condition, and it is hard in many of these cases to determine what is best to do.

Dr. House: The subject of Dr. Bunt's paper is a very interesting one, much more perhaps than many of you think. Dr. Bunts has been so thorough with his paper it seems to me there is very little to be said, except what he has already told you. Having had a little experience in skull fractures, I doubt, as Dr. Bunts does, very much whether surgeons generally will fall into the idea that every case of basal fracture should have a decompression operation performed, notwithstanding that some of our most eminent brain surgeons in America now are advocating that method of treatment. Again, I believe, as Dr. Bunts or Dr. Donnelley says, that we must first classify these cases. There is a class of cases wherein the symptoms plainly indicate that no operation is needed. There is another class where the injury is so extensive that your patient dies within a few hours. Certainly those are cases we do not operate. Then, there is a class of cases where the symptoms are progressive. These cases may be complicated with vault as well as with basal fractures. To illustrate: Six weeks ago a patient was brought to the hospital about 4 o'clock in the morning. He had been struck by a street car conductor with a chunk of lead somewhere just below the parietal eminence on the left side. This man dropped to the ground, was picked up by some friends and led a distance into the Young Men's Christian Association building. He sat down for a few minutes, got over his haziness, walked down into the basement, washed his face and put a cloth over his head, sat down in a chair, and shortly after fell off the chair and was unconscious. The physician found only a slight scalp wound, with no fracture that he could ascertain, and finally the man became so stupefied that he didn't know anything. I saw him at 9 o'clock the next morning. He had stertorous breathing, but he could be made to grunt, though he could give no intelligent answer. He had a dilated left pupil, paralysis of the muscles of the face, with hemiplegia on the right side. On examination I found a fracture extending not just exactly over the place of impact, but further back, not implicating the motor centers as much as you would imagine. Decompression operation was performed, and something like a number of ounces of clot were removed. Within a few days the paralysis

subsided. Now, there was a case, I believe, that is one of these with which something should be done. Then, again, there is a class of cases where the so-called borderline cases—where a man is not satisfied, as Dr. Bunts has said. Shall we, or shall we not operate? The idea that all basal fractures should be operated is rather a bold assertion to make by any one. We do know that in the earlier days there were a great many deaths caused by infection and meningitis. With the improved technique of today a great many of those cases survive, our patients get well by washing out the nose and the pharynx and the ear and packing with iodoform or boracic acid, and we prevent infection. But to say a decompression operation should be performed in all cases of basal fracture I think is wrong.

CYCLIC VOMITING.

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[Read before the Ohio State Medical Association.]

This syndrome, to which the names recurrent vomiting, and vomiting with acetonemia have also been given is of very common occurrence in childhood and is very frequently overlooked. It is doubtless true that many children having attacks of paroxysmal vomiting with the associated symptoms presently to be noted, are considered as having merely "weak stomachs," while the true significance of the condition is not recognized. Cases belonging to this category were described many years ago, but it is only in more recent times that, thanks to the studies of American and French pediatricists, our conception of the condition has been made clear.

The symptom complex occurs most often between the third and tenth years of life. Curiously enough, the condition is most often found in the children of the well-to-do, whose hygienic surroundings and general mode of life are supposed to be of the best. According to Rachford, heredity is the most important single predisposing factor. He finds that a family history of gout or migraine is present in nearly every case, while a general neurotic inheritance is common. The general conception is that after puberty these cases are very rare, but Rachford believes that many children having cyclic vomiting in early life develop migraine later on. It is to be noted that dietary error does not play a very important etiologic role except that overeating may have some causal relation. On the other hand, mental strain and nervous tension are distinctly factors of importance. The attack itself is very apt to follow

mental shock, fright, worry, emotional excitement, anger, etc.

The suddenness with which the illness sets in at times without apparent warning, is very striking. Prodromata may, however, be present; notably nervous irritability, sleeplessness and coryza, with loss of appetite.

The most prominent symptom is the vomiting. At first the vomitus consists of food only, later there is bile stained mucus, and in some instances this is followed by typical bilious vomiting. No food of any kind can be retained; even water being almost instantly rejected. At times the vomiting occurs without effort and with but little nausea, but in some cases the retching and the consequent prostration become extreme. The tongue at first coated, later on becomes red and dry. In cases where the vomiting continues, as it sometimes does, for five or six days, the pinched feature and the great exhaustion are noteworthy. In these rather prolonged cases emaciation often becomes extreme.

Early in the attack the temperature is apt to be elevated, even up to 105 degrees, the fever lasting until the acute symptoms subside. In the mildest cases there may be no fever. In some cases the early temperature rapidly subsides to be succeeded after an interval of one, two or three days by an exacerbation of the fever curve, the secondary temperature going much higher than the primary. This form is well illustrated in the second case to be reported.

As a rule the abdomen is not much distended, though in some cases the tympanites is marked. In most cases the bowels are obstinately constipated, indeed, constipation precedes the actual attack in many cases. Occasionally the bowels are loose throughout the attack, in which event the movements are apt to be very offensive.

Moderate but distinct enlargement of the liver can be made out in many of these cases, and toward the later stages there is often some jaundice.

The nervous symptoms are nearly always marked. In a few instances the attacks are ushered in by convulsions. Such a case is reported by Snow, and Rachford reports two more. The second case of the series to be reported falls in this category. Each of the three typical attacks began with a convulsion. In case 4, the onset was also by convulsion. During the attack, extreme somnolence alternating with great restlessness, jactitation and carphologia are met with. In two of my cases there was absolute coma. Reference has already been made to the fact that the children exhibiting this syndrome are for the most part very neurotic. The nervous irritability

and mental precocity are noteworthy, though it is not to be forgotten that the physical development of these children may be excellent.

The urine during the attacks is scanty, rich in salts and of high specific gravity, and this in spite of the large quantities of water which these children take during the attacks because of the excessive and characteristic thirst. Albumin may be present, though it is not the rule. Casts are not usually found. Indican is usually present in excess, especially in the early stages. Acetone is constantly present in the urine and diacetic acid will be found in the majority of the severer cases. The acetone persists throughout the attack and may persist for some time after all acute symptoms have disappeared. Recently it has been shown that acetone may occur in the urine before the onset of the actual vomiting, and its presence may thus serve as an indication of an oncoming attack. The diagnosis of the condition presents no difficulty in the typical cases, though if the condition be unsuspected the true nature of the syndrome may easily be overlooked, especially in the first attack. Repeated attacks of the characteristic vomiting with the associated symptoms and with accompanying acetonuria, make the diagnosis easy. For the most part the outlook in these cases *quo ad vitam* is good, though fatal cases do occur. The third case to be reported was a fatal one. It is most important to recognize this condition because it seems certain that by proper measures much can be done to lessen the number of attacks.

Prognosis thus depends to a large degree upon early and correct diagnosis. Rachford is of the opinion that many children with recurrent vomiting become the subjects of migraine in later life, and he believes that untreated cases may have even more serious endings. He says specifically "in the untreated cases of these attacks may be transformed into migraine or epilepsy."

Treatment resolves itself into the therapy for the attack itself and prophylactic treatment in the intervals. So far as the attack itself is concerned, calomel in full doses may cut short the vomiting if it be given early enough and be retained. All food must be withdrawn. Water may be allowed freely and is of value even though the stomach does not retain it. On the theory that the underlying condition is really an acid intoxication, Edsall originally suggested the use of large quantities of alkali, preferably the bicarbonate of soda. The bicarbonate may be given by mouth, by rectum, or by subcutaneous injection. In the milder cases, fifteen grain doses of the bicarbonate may be given to a child of three or four years every hour. Where this cannot be retained,

the bicarbonate may be given by rectal injection, one dram of the salt to the pint of water, being injected every four hours. In the severest cases, the bicarbonate should be given under the skin. Ordinarily one dram to the pint of sterile water is recommended. In case four of this series we used injections of two drams to the pint of sterile physiologic salt solution. Within twenty-four hours we gave four such injections to a child of five and one-half years. The excellent results in what seemed to be a hopeless condition were surely, I think, attributable to the enormous dosage of 480 grains of bicarbonate thrown into the system within twenty-four hours.

In the very severe cases, accompanied by extreme exhaustion, stimulation becomes an absolute essential and alcohol does excellent service. The value of subcutaneous injections of morphia in appropriate doses has been repeatedly attested.

The resumption of feeding in these cases must be gradual and, ordinarily, carbohydrate foods are best borne. They are usually well tolerated as soon as the vomiting stops. Full diet should not be allowed as long as the acetonuria persists.

In the interval, these children should lead an outdoor life when climatic conditions permit. They are best off out of school and every effort should be made to restrict emotional excitement and to curb tendencies to nervous instability. Mental fatigue, mental stress are to be sedulously avoided, emotional shocks of all sorts prevented so far as may be.

There has been much discussion as to the proper diet for these children. It would appear settled that acid fruits and vegetables, strawberries, grapefruit, tomatoes, rhubarb, etc., should be interdicted. All stimulants including tea and coffee must be prohibited. An excess of meat should be avoided, the red meats being allowed in very limited quantity only. All foods tending to constipation must be avoided, excess of pastries and sweetmeats being therefore harmful. Constipation if it actually exists must be corrected. The long continued use of small doses of alkali as for instance small doses of benzoate and salicylate of soda as recommended by Rachford, have in my hands, yielded excellent results. Indeed, there is no class of cases which, on the whole, yield more gratifying results to the physicians who recognize them for what they are than these cases of recurrent vomiting.

Four illustrative cases of varying degree of severity are here reported. The mild type of the condition is represented by the following case.

Case 1. Male, aged 4. Mentally precocious child, rather delicate physique. Child evidently very high strung. The attacks of vomiting recur

at very frequent intervals, sometimes as often as every three weeks. The attacks are not dependent upon errors of diet, but are apt to follow emotional excitement of any sort. Vomiting with fever ushers in the attack. At first food is vomited then bile stained mucus and then sometimes though not always, bile. Early in the attack there is usually a pharyngitis; marked somnolence is characteristic of the later stages. The attack which I saw followed an operation for the removal of tonsils and adenoids, but occurred some time after the post anesthetic nausea had disappeared. Physical examination was absolutely negative. Diacetic acid was present in the urine after the acetone had disappeared, contrary to the text-book statement that this does not occur.

Careful regulation of the child's daily regimen and the continued use of small doses of soda salts brought about a marked improvement. Three months later child was permitted to attend a children's party contrary to orders. No food was taken, but on the day following a typical attack occurred. Later reports indicate that the attacks have become very infrequent, the child's general conditions being much improved. A more severe form of the condition is exemplified by

Case 2. Female, aged $4\frac{1}{2}$. Well developed and well nourished child. Mother distinctly neurotic; father not at all so. General hygienic conditions excellent. The attack to be described was the third the child has had, the interval being several months in both instances.

March 5, 1909. At noon the child who had been in excellent health, complained of feeling cold and suddenly vomited. Temperature 104.6. Just as mother was giving the child a hot bath it had a very violent convulsion. Parenthetically it may be noted that both the other attacks in this child were ushered in by a convulsion. When seen about an hour after the convulsion the child was stupid but could be roused; temperature 102. Five hours after this convulsion the temperature was 102. Vomiting had occurred at intervals all the afternoon. One grain of calomel had been given at the time of the first visit, and sodium bromide grs. 5 every two hours during the afternoon. All food was withdrawn, plenty of water allowed. The urine voided just after the attack contained a trace of acetone; that voided in the evening contained both acetone and diacetic acid.

The next day, March 6, child was much improved. Temperature 100. Urine still contained both acetone and diacetic acid. Cocoa, cereals, and toast were allowed.

Two days later temperature rose to 102.2. The child had had an egg the day before when the temperature had been normal. A strict

farinaceous diet was ordered and the child given 30 grain doses of sodium bicarb. every four hours and one high rectal injection of soda, 60 grains to the pint of water.

For the next two days the child's condition continued to improve though the urine each day showed a trace of acetone without diacetic acid.

On March 11, six days after the onset of the attack, the temperature rose to 105. The child was drowsy and vomited at intervals. Physical examination was absolutely negative. Urine contained both acetone and diacetic acid. Sodium bicarb. was now given in 15 grain doses every hour and the rectal injections given every four hours. All food was withheld and the child given water only. This regimen, including the withholding of all food, was continued for the next three days. On the third day there was a distinct pharyngitis and much sneezing, but no other findings on physical examination. Acetone and diacetic acid were present in the urine constantly up to March 17 (twelve days after the onset). On this day there was diacetic acid but no acetone. Thereafter the urine showed neither. Convalescence was rapid, farinaceous foods being well borne. The bicarbonate was continued in reduced dosage up to March 21, full diet being resumed on March 27, twenty-two days after the convulsion.

Case 3. This case, which ended fatally, presented many unusual features. The child, a very bright boy of four, was seen in consultation with several other physicians. He was watched with particular care and the special findings corroborated in every instance by all the attendants. The child had been taken ill in Columbus, the attack being ushered in by severe vomiting without assignable cause. After a single dose of calomel there was marked improvement. Two days later there was a second vomiting spell, this time with fever, somnolence and prostration. Physical examination had been negative throughout. The child when brought home to Cincinnati had a temperature of 103.5. The odor of acetone on the breath was very distinct. Child stuporose, though he answered to his name. Lungs normal, abdomen slightly distended, no splenic enlargement, Kernig and Babinsky both negative, pupils equal, both responding to light. Heart no dilatation, but the action very irregular. First sound not clear. Pulse varied from 104 to 200 and back to 110 within two minutes. Urine loaded with indican, acetone and diacetic acid. No albumin or sugar; microscopic examination negative.

Treatment: Withdrawal of all food, soda bicarb. internally and by rectal injection, and one drop doses of tr. strophanthus 3 hourly.

The day following, May 6, 1908, the morning temperature was normal, evening temperature 104.8. Treatment continued.

May 7. Steady improvement. Urinary find as before.

May 8. Temperature normal, but face became swollen. Heart action steady; pulse 64. Urine as before. For the next two days there was slight improvement and the child began to take oatmeal gruel and crackers.

May 11. Child passed a specimen of very dark urine containing albumin; microscopic examination showed only some red and white blood cells. Three hours later urine contained no albumin; microscopic examination negative. Indican, acetone and diacetic acid present in all the specimens. Temperature went to 105.

Examination for plasmodia negative. Blood examination negative. Widal negative.

May 13. Condition unchanged except for extreme abdominal tympany. During all of this time sod. bicarbonate had been given by mouth and by rectal injection; today one pint of sod. bicarb. solution (120 grains to pint) was given by hypodermoclysis. During that evening the child was very somnolent and the respirations became very shallow, one time dropping to six per minute. Physical examination continued negative except that after the abdominal tympany had been relieved by enema, a very marked enlargement of the liver could be made out.

May 15. Condition unchanged; soda given under skin as before. This afternoon there was a distinct convulsion. Large doses of alkali were given. For the next two days there was a gradual sinking, the child gradually becoming absolutely comatose. Death occurred in coma on May 19. The acetone and diacetic acid were found in the urine in all specimens, one specimen being examined shortly before death. There was no autopsy.

Case 4. This was another illustration of the severe type of toxæmia, but afforded an excellent demonstration of the value of enormous doses of alkali. This case was seen in consultation with Dr. M. Salzer, to whom I am indebted for some of the clinical notes.

On January 16, 1909, the child, a well nourished boy of five and one-half years, had a severe convulsion followed at 9 a. m. by another. There was a history of indiscretion in diet. Physical examination was absolutely negative. Calomel, grain 1, was given at once and strontium bromide, grains 5, ordered every three hours. The day following the convulsion the child vomited repeatedly, the odor of acetone on the breath being distinct. The urine contained indican, acetone

and diacetic acid. The vomiting continued all day and in the evening one dram of sod. bicarbonate was given by hypodermoclysis. The child was very somnolent.

January 19. Condition unchanged. Temperature 103. Physical examination negative. Soda again given under skin. Urine as before.

January 20-21-22. Soda bicarbonate, grs. 60, in one pint of salt solution was given under the skin each day. The temperature ranged from 101 to 103. The child was stuporose at times; at other times would take gruels with avidity. During all of this time physical examination was absolutely negative except for a few mucous rales at the bases of the lungs posteriorly.

The condition remained about the same except that the child seemed to be sinking deeper into coma. Accordingly, as a last measure, it was decided to increase the doses of alkali. In twenty-four hours four injections of 120 grains of soda in solution were given by hypodermoclysis. Thereafter the child began to improve. There was some tissue necrosis at the sites of the injections, but this caused no serious trouble.

By January 29 the child was taking food well, and on this day for the first time in the attack, the urine showed neither acetone nor diacetic acid. Small doses of nux. and strophanthus were now given and the food pushed. The child improved rapidly, was up and about on February 5, just a month after the convulsions. He has remained well since this time.

There is at present no uniformity of view as to the pathogenesis of this condition. Post mortem examinations for evident reasons have not been numerous. In one, Griffith found necrotic changes in the intestinal mucosa and fatty infiltration of the liver. More recently (Dec., 1907) Myers has reported a fatal case in a child of two, in which the partial autopsy permitted showed some enlargement of the liver with extreme fatty infiltration. These findings are, of course, not conclusive, though they are suggestive. Some idea of the diversity of view as to the pathology of recurrent vomiting may be had from the fact that Fishl, of Prague, is convinced that the condition is absolutely hysterical, basing his opinion upon the general "nervous" picture afforded by these children. He admits that it is difficult to explain the constant acetonuria on this basis. Krotkow believes the condition to be a pseudomeningitis produced by disturbances of digestion. But these views do not meet with general support. The consensus of opinion would appear to be that we are dealing in this condition with an acid intoxication, though whether this acid intoxication is primary or secondary, would appear

to be undertermined as yet. Von Noorden believes that all acid intoxications produced by the presence in the tissues of acetone, diacetic and oxybutyric acid are due largely to some fault in the carbohydrate metabolism or to insufficient intake of carbohydrates. As Rachford has pointed out in "recurrent vomiting we have all the conditions necessary to produce acid intoxication, insufficient intake of carbohydrate food, profound nutritional disturbances, and faulty carbohydrate metabolism produced by the functional incapacity of the liver."

The most exhaustive studies on the subject recently are those by Howland and Richards. As a result of their studies they conclude that "shock, excitement, fright, anger or something of the kind is exerted upon an unstable nervous system. As a result of this, in some way unknown to us, a diminished power of oxidation results and the organism loses the power to detoxify substances absorbed from the intestine which have been present there in excess. These circulate in the blood, exerting their poisonous action and cannot be excreted by the kidneys because they are not brought to them in proper form. It seems probable that they are excreted and reabsorbed by the stomach and intestine, in the light of which vomiting would appear to be eliminative and thus a protective mechanism.

Finally the power to oxidize and detoxify these substances returns, they are rapidly eliminated and quick improvement results. This most interesting explanation of the mechanism of the attack is generally accepted today, but the underlying cause producing the temporary diminished power of oxidation is as yet unknown. The pathogenesis of this condition is thus still in doubt, but its symptomatology is quite clear. Its more frequent recognition will surely lead to its more careful study. Meantime, the recognition of the individual case is surely possible and the resultant good to the patient, in most cases, just as surely great.

4 West Seventh Street.

DISCUSSION.

E. W. Mitchell, Cincinnati: This paper has interested me especially because the fatal case reported was one that I had the opportunity of watching from an early stage of its development. The term "cyclic or recurrent" vomiting does not seem appropriate to this case, because vomiting was at no time a prominent symptom and because this was the first attack. It also differed from the usual cases by having a constant elevation of temperature and part of the time quite a high temperature. There was some vomiting at the beginning of the attack; very little afterwards. The one feature which links it with the cases of cyclic vomiting was the constant presence of acetone and diacetic acid in the urine with the characteristic acetone odor of the

breath. The term "acidosis," has become rather prominent in medical literature in recent years. Although it is objectionable as indicating only a symptom, it is probably the best term to use until we know very much more of the real causes and conditions which produce the acidosis, and is a convenient term to use for these cases which cannot be accurately classified.

The enlargement of the liver and spleen in the latter part of the course of the case is an interesting feature in connection with the theory that disturbances in the functions of the liver are the primary cause of the disorder.

There are now a number of fatal cases on record of so-called cyclic vomiting, so we must look upon the prognosis as more serious than has been taught. Some of these cases, like the reported by Dr. Friedlander, do not present the typical picture of cyclic vomiting. I have recently seen some cases in which acetone and acid were present, but presenting only in part the clinical picture of cyclic vomiting, resembling in many respects the fatal case already referred to, but very mild in degree.

In our case large quantities of bicarbonate of soda were given by mouth, by rectum, and under the skin. That much of it was absorbed was evidenced by the urine becoming alkaline. Intestinal antiseptics were also administered and the child was very carefully fed.

I have seen some cases in which the alkaline treatment gave most prompt and satisfactory results, but in this case its good effects were most transitory and the course of the case, with periods of apparent improvement, was steadily downward to a fatal issue in profound coma.

THE HYGIENIC ASPECT OF OHIO RIVER WATER SUPPLY INCIDENT TO SLACK WATER NAVIGATION.

S. O. BARKHURST, M. D.,
Steubenville.

[Read before the Ohio State Medical Association.]

Charles A. L. Reed has justly characterized the conditions existing in the Ohio river water shed as a "Thousand miles of river and a thousand miles of typhoid." It is, in truth, a thousand miles of open sewer, and the completion of the proposed government dams will convert it into a thousand miles of open cesspools.

The Ohio river water shed drains a territory of 200,000 square miles; 1,500,000 inhabitants receive their water supply from the Ohio river sewer. The water is poisoned by acids and other waste material from tin plate mills, the galvanizing departments of iron and steel mills, waste material from distilleries, slaughter houses, paper and numerous other mills.

There occurred in the city of Pittsburg during five years ending with 1908, 18,144 cases of ty-

phoid fever, with 2138 deaths, a mortality of 11.2 per cent., an average yearly death rate of 131.5 per 100,000 population, the largest in the catalogue of shame on the face of the globe. Translated into the coin of the realm, costing the city more than \$1,800,000 a year.

Including the city of Allegheny, the Ohio river starts on its death-dealing mission from the largest typhoid fever center in the world, laden with the excrement from more than 4000 typhoid fever cases each year.

While it is generally known that most victims of typhoid fever get the disease by drinking water containing excrement from other typhoid patients, the people are indifferent and surprisingly apathetic.

The citizen of the Ohio Valley ignores the oft repeated warning and admonition to boil the water; he lulls himself into a state of fancied security, or is resigned to his fate and awaits the coming of his typhoid with as much complacency as the Hindoo awaits the coming of his cholera. The average American cherishes the belief that whatever may befall his fellow citizen, as for himself, he is safe under the wing of his guardian angel or is protected by a special Providence. Believing he is thus relieved of responsibility for his own welfare, he has no personal motive in promoting the public safety. We freely contribute our means for the support of Missionaries to lead the benighted Egyptian from darkness into light; we view with mingled compassion and disgust his act of using water for culinary purposes with which he has bathed a fellow, dead of cholera. At the same time, we, who live in a land of boasted civilization and enlightenment, quaf water with indifference from the very mouths of sewers contaminated with excreta from patients sick of enteric diseases and all the filth due to civilization.

The world was horrified on the twenty-eighth day of last December when a threefold catastrophe blotted out of existence 150,000 human beings in thirty-two seconds of time. The last murmur of that fearful disaster, over which mankind had no control, was scarcely silenced before the United States government had supplies on the way for the relief of the destitute and suffering. That was for strangers.

In our own free land of boasted humanity and enlightenment 100,000 annually are slaughtered by the unprotected machinery, the forgotten railroad order, the reckless autoist, the gas-filled mine, and other preventable causes; for whom there is not a tear, a word of sympathy nor a dollar for the dependants. Our humanity, like our commercial zeal, is oftentimes misdirected. We

spend millions for relief, but not a dollar for prevention.

Death by violence is more easily preventable than in its more insidious form of disease which works by stealth in the darkness.

During low water stage which almost invariably occurs in late summer and autumn, the sewerage from cities above and dejecta from hundreds of typhoid cases lodge and accumulates at Davis Island dam; this debris is washed out with the first rise, which probably accounts for the prevalence of typhoid fever in the down-river cities during the winter months—a season when the much abused house fly is out of commission. This fact is more than a shadow of coming events.

I do not question the commercial wisdom of slack water navigation for the Ohio Valley. With cheap transportation the year round for heavy freight and its natural resources, it is destined to become the work shop of the world. There will be an influx of population and consequently increased pollution of the river water. If the present conditions prevail with no provisions for the conservation of the public health, the cry of today, "On to Cairo," will be re-echoed tomorrow in the wails of widows and orphans.

There are thousands of cases of typhoid fever and other intestinal diseases occurring each year in the Ohio river cities, due in large part to the polluted river water. I am unable to even approximate the number of cases because the typhoid cases are not registered in the Ohio towns and cities; a sad commentary on the health regulations of the State of Ohio.

What I have said of the conditions existing in the Ohio Valley is also true of most all other streams in the United States. The waste due to sickness and death caused by the use of water from contaminated streams is appalling and deplorable; deplorable because in large part preventable. The federable government does not raise a hand to correct this most flagrant evil now afflicting the people.

Millions of dollars are expended on improvement of our rivers and harbors; millions of dollars are wasted by loss of productive energy due to preventable sickness and preventable death.

We are living in an age of great things; we must not be dazed nor staggered by our own creations; but greater and greater things must we do because of the necessity that compels it.

The Bense Act puts Ohio in the lead of all other states in the Union and not second to any other country in the world as regards protection of water supplies. It is perhaps the most im-

portant health law on the statute books of any state. Notwithstanding its great importance, it is of necessity null and void as regard the Ohio river cities. Section 1 of the act nullifies itself so far as the Ohio river is concerned, by excepting those cities that discharge sewerage into the Ohio river.

With the exception of a few miles, the Ohio river is strictly an interstate stream, receiving sewerage from many states; it is therefore a law unto itself and offers special problems. It would be useless for one state to require its cities to purify their sewerage so long as other states continue to pollute it. Here again Ohio has taken the lead by appointing a commission to confer and act with similar commissions later appointed by the other bordering states, "To the end that a plan may be recommended whereby the several states' interest may jointly protect the Ohio river against sewerage and other pollutions."

These innovations by the interest states is a move in the right direction. It keeps up the agitation and is a means of educating the people. The message must be carried to the people, and public opinion must be moulded. A law enacted in advance of public sentiment can not be effective.

If the state organizations will get together in a national movement, there will be something doing of practical value. It is impossible for the states to enact laws with sufficient uniformity to control like conditions. A national necessity can not be controlled by state legislation. The Ohio river is distinctly an interstate stream, and as such falls within the jurisdiction of the United States government. As all interstate streams are fed by interstate tributaries, they likewise fall within the jurisdiction of the federal government.

This whole question is of national importance; if we are to maintain our national efficiency, we must conserve the national vigor. I believe in the truth of Emerson who wrote "Health is wealth."

The problem of coining health into wealth is the greatest economical question of the age. The same logic that justifies an appropriation for the protection of plant life, the health of domestic animals, and other means for the conservation of our natural resources, should, in a three-fold measure, warrant the establishment of a national health department; for it has been proven that our vital assets are three times greater than our material assets in earning power.

Professor Norton has clearly shown that \$800,000,000 could be saved annually by increasing the

life span. Science has demonstrated conclusively the proposition that the average age at death can be increased fifteen to twenty years. He also demonstrated that the economic burden of sickness could be reduced \$500,000,000, and \$120,000,000 from the burden of death on the productive years; \$600,000,000 is the price we pay for criminality, due largely to preventable causes, such as alcoholism and overcrowding. The total saving that could be had yearly, Professor Norton declares, is between 1,800,000,000 and 4,000,000,000 of dollars. But let us add another item; 1,500,000 persons die in the United States annually; 500,000 die under two years of age; 500,000 die during the unproductive extremes of life; 500,000 die during their productive, one-third of whom are capable of earning \$600 a year, representing a capital loss to their dependants of \$1,660,000,000, a total of more than \$5,000,000,000. An enormous waste that has been demonstrated can, in large part, be prevented. Viewed from an economic aspect, would it pay?

Aside from this, the humanity of it all should appeal to our higher sensibilities.

THE DELICATE CHILD.

E. W. MITCHELL, M. D.,
Cincinnati.

[Read before the Ohio State Medical Association.]

About one-tenth of the babies born, die in their first month. About one-fourth die before well entered upon their second year. The most pitiful feature of this waste of life is the fact that a very large part of it is from preventable causes. While we have statistics which give an approximate estimate of the number that die in the early months and years of life, there are no figures to tell how many of those who live are damaged in constitutional vigor by preventable illness, by neglect, by mistreatment during this helpless period. No estimate can be made of the loss to the individual in his comfort and happiness, or of the loss to the community in his efficiency and productiveness.

There can be little doubt but that many cases of tuberculosis which develop in early manhood and womanhood, had their primary infection in infancy—perhaps sometimes from the milk—most often from living in close association with a tuberculous subject, sometimes from living in dark, unclean and infected apartments, from crawling about dirty floors, from handling infected articles, etc., etc. Some one's ignorance or neglect is responsible for the disability which

comes years afterwards. How much of the dyspepsia of the adult had its foundation in the bad feeding of the baby, no one can tell.

It is true that many feeble men and women have contributed valuable work to the world. There have been the Alexander Popes, the Elizabeth Barrett Brownings, the blind Miltons, the Alexander Stenvenses, but as a rule "the battle is to the strong", and physical vigor (not necessarily muscular strength), is the basis for mental vigor. The healthy men and women are the most valuable members of the community. From this point of view the care of the young becomes the most important work of our profession and the development of strong and healthy children, even more important than lowering the mortality rate. Nor is this duty incumbent only upon the medical profession. Society has its duty to perform in protecting its little ones from the dangers surrounding them. It has this duty and this right because of its interest in them as future producers or future dependants as well as because society itself is responsible for most of the conditions threatening the health and lives of its children. It has, thus, the right and the duty to enforce all such laws as prevent the spread of contagious diseases; all such laws as prescribe rules for proper sanitary provisions in tenement houses—the inspection of schools; the establishment of special schools for the blind, the crippled, the defectives and others, who, by such special provisions, may be developed into stronger and more useful members of the community than would be otherwise possible. It has, for similar reasons, the right to enforce attendance at school, but when it forces the child to attend in unsanitary buildings it not only commits a crime against the child, but sins against itself and defeats its own aims. We have come to realize very keenly two anomalies in our social system; one that our schools too frequently produce a lot of delicate children who grow into feeble men and women, the second that our industrial system has been allowed year after year, to grind the bodies and souls of our little wards into wrecks of the one and degeneracy of the other. In effect, society continues manufacturing delicate children by the wholesale. The blindness of society to its own best interests is well illustrated by the long and difficult fight to secure medical inspection of schools and efficient labor laws regulating the employment of children—a fight still far from won.

The term used in the title of this paper is not readily defined in a few words, but to the mind of the medical practitioner it brings into view a large number of his youthful patients. In the first

place are those who are subjects of some definite disease, such as ricketts, syphilis, tuberculosis, etc.; another group are those who have by inheritance a feeble constitution; a large group is made up of those who, without definite illness, are below the normal child of the same age in weight, in height, in strength—some the victims of too much coddling in comfortable homes, others the victims of poor food and bad hygiene in homes of poverty—all the subjects of malnutrition. Some have had feeble digestive and assimilative powers at birth; many more have had normal organs injured by bad treatment. Of all causes, probably improper feeding during the period infancy is the most common. The food may be improper in kind or quantity, too much or too little, for over-feeding is responsible for much of the gastrointestinal trouble of infants. Imperfect recovery after the contagious diseases is responsible for other cases.

The delicate child is not only under weight and under height, but also has flabby muscles. He tires easily, sleeps poorly, catches cold easily, often has catarrhal troubles, often is constipated, usually is fretful and irritable, his appetite is capricious, he has little endurance, is susceptible to infections, his digestion is readily disturbed.

In general outline the principles of management are alike for all the above groups of delicate children. Accurate diagnosis should differentiate the subjects of definite forms of disease and indicate the special treatment. Special symptoms must receive appropriate attention. Each child should be studied with reference to his disabilities, his peculiarities, his heredity, his environment. Adenoids and enlarged tonsils should be removed. In some cases these overgrowths are undoubtedly the chief factor in the delicacy of the child, not merely because by obstructing free respiration they prevent sufficient oxidation, but also because as a *nidus* of infection they keep up a certain degree of toxemia.

The keystone in the arch in the treatment of children, is *nutrition*. The child is building a structure for which he must have proper and sufficient material. Furthermore, he must utilize that material. The delicate child has subnormal digestive powers and must, therefore, be fed with particular care. He has to some degree, lost his power of assimilation and can appropriate less of his food for growth and for energy. He must, therefore, be limited in his expenditure of energy. He must be called upon to do less work, less study, less active play, than his normal brother. He must have much *rest*. He should have a long night in bed, and should be

put to bed in a quiet room for at least one good rest during the day.

In certain cases, a period of "rest-cure" treatment, i. e., confinement to bed, with liberal feeding and massage to offset absence of exercise, is of very great value. In other cases a partial rest-cure serves the purpose well. The success will depend largely upon the tact of the physician and the intelligence of the mother. The very nervousness that is the consequence of their feebleness, leads many of the children "to go until they drop." They play until exhausted or "fuss about" from one thing to another. Hence supervision of their play and direction of their energies is important that they may be kept from over-exertion and nervous exhaustion.

The question of school attendance is often one difficult to decide at first. Of course, the worst cases offer no alternative, but for the milder grades attendance is often better than the irregular life of the home. A well conducted kindergarten offers for a few hours a day, pleasant occupation for the little child, with direction of his energies into channels which are both instructive and agreeable. The capacity of each pupil is taken into consideration and his work graduated accordingly. I have frequently seen delicate little ones, after entering the kindergarten, steadily improve in physical condition. From kindergartens established in connection with public schools where poor children are taken from their less favorable surroundings for a few hours each day, we may expect to see fully as much physical benefit as mental and moral. With the older children, consideration must be made of the condition of the schoolroom itself, of the amount of work and also the condition of the home and how much physical and nervous strain is coming from other things than school work. If the children's parties, the piano lessons, the amusements that mean effort and strain without any real improvement to the mind or body, are cut out there may be plenty of time left for the school work, which with its regular system, is better than the irregular life out of school. If you can regulate the home life, if the school is sanitary, if the school work is not excessive or the school hours too long, it is frequently better to continue the school attendance and regulate carefully the home life. Sometimes a half day's attendance is permissible when the whole day is too much.

Regular exercise the child should have within the limits of his strength. It should be systematic, day after day, and not a day of vigorous exercise, now and then, with intervening days

of idleness. Massage is a valuable adjunct for those who are too feeble for much active exercise and light gymnastics for those who are stronger. But no formal exercise quite takes the place of free play in the open air, a due portion of which is every child's birthright.

No part of the treatment is of more importance than the breathing of fresh air both day and night. Dr. Northup's "Twenty-three Hour Treatment" is applicable to practically all diseases and to all children—twenty-three hours of the twenty-four to breathe the open air—one hour indoors for the necessary toilet attentions. During the day his play and work should be, as much as possible, out of doors; when that is impracticable because of the weather or other circumstances, on a porch or in a room with the windows open. His daily nap should be taken on a porch or in a room with open windows. At night he should sleep with wide open windows. Of course, he should be kept warm. The constant breathing of the fresh air stimulates appetite, digestion and assimilation. Free oxygenation improves the quality of the blood with consequent benefit to every tissue. The children who live in the open air are the ones who do not take cold. Next to the fresh air the best "tonic" is cold bathing. With delicate children this should begin with an alcohol rub—soon changed to a mere dash of cool water over the surface followed by a brisk rub—only to be a plunge bath when the child has grown older and stronger.

The clothing of the child is often a question difficult to deal with, since on this subject the average mother will listen to the dictates of fashion rather than to those of common sense. It should, of course, be loose and comfortable, protecting, not interfering with free movement, and varied with weather conditions. Too heavy and too warm clothing is injurious. It is too warm whenever the skin is kept moist when the child is not actively exercising.

The delicate child should be especially protected from nervous strain of every kind. He should be kept away from parties, theaters, crowded streets, from noise and confusion. He should live as far as possible, "the simple life," and preferably in the country if he can be there so situated as to have proper care.

Change of climate is an exceedingly valuable therapeutic measure for very many delicate children. Since we have discovered that the principal value of the so-called favorable climate is that the individual is in the open air practically all the time, we are learning how to keep our patients, big and little, in the open air at home.

We have here, however, the handicap of so much changeable and inclement weather that the difficulties of living in the open air are far greater than in the equable climate. There is in addition, decided benefit in the more stimulating atmosphere of mountain and seashore and in the northern lake resorts in the summer.

Any practitioner who has had several years of observation must have seen many delicate babies and children grow into vigorous adults when they have had proper care. Experience has taught us that even the hereditary defects may be large offset by the influences of proper environment; that the children may be developed into stronger and healthier men and women than their parents. It has also taught us that treatment in many cases may largely repair the damage of early diseases and mistreatment and that proper care in proper environment can at least make better men and women of the feeble children than would be possible without such care.

4 West Seventh Street.

DISCUSSION.

Alfred Friedlander, Cincinnati: I wish to congratulate Dr. Mitchell on his excellent handling of a serious problem, and to call attention to two phases of the subject he has touched upon. First, one of special importance is school hygiene. The time is past when mere attention to the three R's can be considered as covering in any way the question of school responsibility. Medical inspection of schools can do much in the prevention of the spread of the acute contagious diseases in the schools. There is the urgent necessity for the establishment of bureaus of school hygiene in our cities, so that developmental errors, errors of refraction, adenoids, etc., may not only be recognized, but corrected. In one school in this city, where there were 900 pupils, a systematic examination of the eyes of the children showed that 440 had refractive errors, many of which had been overlooked. It is the province of the medical inspector to discover such conditions. It is the province of the bureau of school hygiene to see that they are corrected. Another point of great importance with reference to the delicate child is the question of tuberculosis. It should be remembered that the diagnosis of tuberculosis in childhood is often difficult; that tuberculosis in childhood is not always a disease of the lymphatics or of the bones and joints. Pulmonary tuberculosis is really very common in childhood, and the physical signs of this are not always easy to recognize.

I should like to emphasize the fact that anemia in childhood is always suspicious, and that many of the children originally considered as being merely anemic delicate children are in reality tuberculous.

If we reach the point of recognizing the fact that tuberculosis—even pulmonary tuberculosis—is enormously common in childhood, we have taken one step forward in the detection of this

disease, which to my mind is responsible for a large proportion of our so-called delicate children.

T. C. Miller, Massillon: This is a good paper which Dr. Mitchell presents. I would suggest a criticism from my standpoint—if, indeed, there is any ground for criticism whatever. He spoke of excluding delicate children from children's parties, theaters, etc. Strike the term "delicate child" out. A great many vigorous, well organized children are practically started out on the road to nervous troubles by attending too many children's parties and the theaters, and otherwise aping the follies of their elders.

William Gillespie, Cincinnati: There is one factor in the development of the delicate child which I would like to touch upon. Children who are unusually strong in infancy and can digest anything on the table frequently have their digestive organs so exhausted by overwork that they grow into delicate children and chronic dyspeptics. There is stronger probability of later trouble with the child who is possessed of unusual digestive capacity and is overfed than with the delicate child who is judiciously fed in early life.

John Phillips, Cleveland: Defective teeth are a very common cause of delicate health in children. In 1071 children examined in the outing department of the children's fresh air camp in Cleveland, 529 or 52.1 per cent. had defective teeth; 296 or 27.6 per cent. had enlarged tonsils, and 180 or 16.8 per cent. had adenoids. The carious teeth not only interfere with the proper mastication of food, but there is also a constant absorption of toxins. In some cases where there are abscesses about the teeth, pus is being constantly poured into the stomach and may set up a septic gastritis or enteritis. I have seen nephritis in a child following an abscess about the tooth.

Dr. Mitchell (closing discussion): It is manifestly impossible to go into minute details in a paper of this kind. One can only lay down general principles:

I quite agree with Dr. Friedlander that the number of children who have pulmonary tuberculosis is larger than is generally believed. Every delicate child should be carefully studied with reference to the possibility of its being the subject of early tuberculosis. The general treatment outlined for the delicate child is also well adapted to the tuberculous.

The question raised by Dr. Scott is a very interesting one, but it will probably be a long time before we can have a positive answer to it. Theoretically, it would seem very likely that the infant should be "sentized" through the mother.

We no doubt all quite agree with Dr. Miller that children should have very little of the nervous excitement of the theaters, parties and such social functions. The child should have a simple, quiet life, much out of doors, a plain diet, much rest.

AN UNUSUAL CASE OF HYPERTROPHY OF THE PALPEBAL CONJUNCTIVA.*

FRANCIS WHARTON BLAKE, A. M., M. D.,
Columbus, Ohio.

[Read before the Ohio State Medical Association.]

Christian A., the only son of Danish parents, was admitted to the Ohio State Institution for Feeble-minded Youth in February, 1902, being, at that time, less than four years of age. His family history is practically unknown. Mentally, he was markedly deficient, and physically, he was slow in learning to walk, and showed congenital deformities of both thumbs and great toes. His vocabulary was limited to a very few words.

By the courtesy of Dr. E. J. Emerick, the superintendent, and of Dr. F. L. Keiser, physician at the institution, I saw the boy in their hospital ward in the summer of 1907, regarding the condition of his eyes. The history received from Dr. Keiser, who had but recently entered upon the service, was of repeated attacks of conjunctivitis and of corneal ulceration. The boy presented a most distressing appearance. The upper eyelids were everted and thickened to such an extent that he must raise them with his finger to see any object, and from them flowed a profuse purulent, ichorous discharge, producing excoriations of the nose and cheeks. His nightdress and bed linen were soon soiled with the discharge. Quite a large area of the scalp was the seat of ulceration and incrustation. I suggested a course of treatment by cleansing applications and astringents, which proved of no avail.

Later I suggested the propriety of his removal to my service in the Children's Hospital, with a view to operative interference. After some delay from the correspondence necessary to secure his mother's consent, he was admitted to the Children's Hospital, in September, 1907. The condition of the eyelids may be best inferred from the pictures accompanying this report. After a course of cleansing and strict asepsis, the discharge lost its purulent character. As neither my confreres nor myself had knowledge of a similar condition, I decided to operate on one eye to determine the result. Accordingly, on October 9, under general anesthesia, I removed a large everted portion of the thickened conjunctiva of the right upper lid, the anterior line of incision being parallel to and about one-fourth inch from the border of the lid. The tissue was hard, creaking

*Reported to the Eye, Ear, Nose and Throat Section of the Ohio State Medical Association, Cincinnati, May 6, 1909.



Fig. 1.



Fig. 2.

Figs. 1 and 2 show appearances of eyelids at time of admission to hospital.



Fig. 3

Shows condition after operation on the right eyelid.



Fig. 4

Shows present appearance.

under the knife, and very vascular, several vessels requiring torsion. The incision was closed by interrupted silk sutures, and the lid restored to its normal relation to the eyeball. The healing process was rapid and normal.

The result attained warranted a similar procedure upon the left eye, which was done November 7, 1907. A portion of the thickened conjunctiva was submitted for examination to Dr. J. J. Coons, of Columbus, who has kindly furnished me with the following report:

"The specimen consists of several small, irregular pieces of tissue removed from the eyelid. The largest measures 0.5x1x2.5 cm. They have a warty, papillomatous appearance.

"Histology—Short, flat, sessile, dendritic papillae are seen. There is a central connective tissue framework with the usual vascular and nerve supply. This connective tissue is covered by many epithelial cells and epidermic layers. Thus a true papillary hypertrophy of the corium. The deeper structure is a loose fibrous connective tissue containing many small blood vessels whose lumina contain an abnormal number of polynuclear leukocytes. There has been some extravasation of these leukocytes, and there are clumps and scattered small round cells indicating a subacute inflammatory condition. The papillary overgrowth does not extend down into the deeper tissues.

"Diagnosis—Papilloma, or papillary epitheloma, or papillary fibroma."

At the present time the conjunctiva of the upper lids is somewhat thickened, but the eyes are comparatively free from local irritation; and, while having a marked droop, the movements and appearances of the eyelids are practically normal.

While not complete, my research has failed to reveal the detailed record of a similar condition. While such records may be found, the rarity of such an extreme condition would seem to warrant this report.

The McLene, 185 East State Street.

CORRESPONDENCE

At the late meeting of the Ophthalmic Section, A. M. A. (eleven hundred members), the undersigned were appointed a committee to promote a working knowledge of simple refraction among family physicians.

It has secured abundant evidence that such knowledge has been acquired and is now used by many physicians, so proving that all medical men can do likewise, if they so desire.

But that the practice may become uniform,

it is necessary that the state boards of registration require it for license, and medical colleges teach it in course.

Recognizing its importance, the Michigan State Board of Registration, on February 12, 1909, notified medical colleges that thereafter it would grant licenses to practice only to such applicants, as demonstrated, on a living subject, with simple spherical lenses and test types, their working knowledge of simple refraction.

Your committee is confident that every state board of registration would make a like requirement if it grasped the situation, and then all medical colleges would qualify their students therefor.

Recalling the fact that our system of medical education makes no adequate provision for training the family physician in simple refraction, and that it be impossible for experts to meet the needs of all the people in this respect, it is plain that this class of cases had no source of relief other than the optician. But if the state boards require a working knowledge of simple refraction for license, the needs of all the people will be fully met by qualified physicians, and the optician resume his normal vocation as a spectacle merchant.

Recognizing your great influence in medical affairs, and assuming your vital interest in enlarging the field of family practice, your committee confidently asks your active endeavor to persuade your "State Board of Registration" to require "a working knowledge of simple refraction" from each applicant for license.

Each member of your committee stands ready to assist you to a fuller understanding of the situation, or to co-operate with you in seeking its relief.

With thanks for your aid, and a report of your success, we remain,

Sincerely yours,

Leartus Connor,

Detroit, Mich., Chairman.

A. R. Baker,

Cleveland, Ohio.

J. Thorington,

Philadelphia, Pa.

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THE SPECIAL ASSESSMENT.

There does not seem to be a general understanding of the reasons for the special assessment of fifty cents per capita levied by the House of Delegates at the last annual meeting of the State Association.

After a year's experience as President, having made a careful study of the status of the medical profession of our state and the Association as an organization, Dr. Silver, a man of ripened judgment and keen discernment, with the highest ideals and broad views, but at the same time judiciously conservative, presented in his annual address a number of suggestions for enlarging the scope of the work of the Association as seemed to him demanded by the exigencies of the day.

He believed that for our own protection we should guard against adverse legislation, and in the interests of the people we should urge the passage of health laws and the like; that we should endeavor to educate the people along sanitary lines; take part in the anti-tuberculosis campaign, and in many ways lead in and direct measures vitally affecting our profession and its relation to the people. If we would maintain

the esteem and respect of the latter, and continue to merit their confidence, we must meet our responsibilities in these directions.

Some of this work has been done with success in the past two years, but the funds in the treasury from the present annual dues of but one dollar are insufficient to carry it on effectively; in fact are barely sufficient to provide for the general expenses necessary, especially since the division of the annual meeting into the present number of sections.

Two years ago a special fund of one thousand dollars was raised by voluntary subscription, and this was nearly exhausted last spring. It did not seem fair to call for another such subscription, for although many of those who had subscribed before expressed a willingness to do so again, the work to be done is in the interest of all, and therefore all should be willing to contribute. Fifty cents per capita will provide a sufficient sum to accomplish a great deal, and it is to be hoped that the county societies will take this matter under consideration and those which have not remitted their quota will do so as promptly as possible, as the need is really very urgent.

PELLAGRA.

The public press has discussed the prevalence of this disease so widely in the last few months that it would seem that we have been invaded by a pan-demic disease, or that it has been slowly and insidiously spreading unrecognized, or again that the whole affair has been grossly exaggerated.

While the last named view may be more or less correct, the present thorough investigation will doubtless prove of great benefit and in the near future show us the exact *status praesens* of the disease as far as this country is concerned.

King's very interesting article on the history of the disease in a recent number of the Journal of the A. M. A. shows it to be quite widespread in Europe and as having been known there for many years or even centuries. In this country, however, but few cases have been reported until very recently with the exception of a few sporadic instances.

Considering the number of American students who have studied in the various medical centers abroad in the past fifty years, with faculties stimulated from their foreign training and on the lookout for novelties, it seems inconceivable that anything like a widespread occurrence of such a distinctive disease could occur and escape recognition.

The present very general interest is the result of the identification of a small epidemic in Alabama as the true Italian pellagra by Babcock and Watson of Columbia, S. C. in 1908; quickly a number of observers recognized that similar cases had been occurring for some time, though no one knows just how long. In South Carolina, in October, 1908, and November, 1909, special "Pellagra Conferences" were called to consider the subject, and numerous papers presenting the various aspects of the disease were presented. Since then the country in general has been considerably aroused, for though the southern states would seem to be more particularly affected,

the disease has been found as far north as New York, Pennsylvania and Illinois.

A very graphic presentation of the distribution of pellagra was given in a recent magazine article; a map of the United States was printed with black dots representing the proportionate number of cases reported in the various states. Some states were nearly covered, while others, among them Ohio, were entirely blank. Since then the daily papers have stated that a case has been reported in Cleveland, and therefore it behooves us to be on our guard and look about us very carefully to see if there are other instances of the disease in our midst hitherto unrecognized.

In the minds of the foreign observers there seems to be little question but that our native corn or maize is responsible in some way. Whether the poison arises from deterioration of the corn from its being cut while green and stored in a damp condition, or to a diseased corn in the first place is not known; nor has it been determined whether the symptoms are the result of the poison already formed or whether micro-organisms ingested with the corn meal give rise to and carry on a chronic infection.

According to Adami, Osler and a great many European writers it is allied to ergotism and therefore an intoxication; Ceni declares the fungus to be a member of the *aspergillus* family; but a number of others in the last year are turning toward the infection theory and some from analogy, to the possibility of a protozoan cause rather than a fungus.

At the last South Carolina conference the prevailing opinion seemed to be that at present it is better to say that the cause is unknown; the positive relation of corn to the disease is not proven, nor has any other exciting cause been positively demonstrated. Such a statement clears the field for investigation and should lead the way to a solution of the problem.

"NEUROLOGY—THE DRUGLESS SYSTEM."

There seems to be no limit to human credulity, nor to drugless cults!

We boast of our progress in civilization and look down upon the charms, fetiches and voodooism of the savage with infinite disdain, and yet how constantly are we reminded that all our culture is hardly more than a veneer, and just under the surface superstition and ignorance are but held in leash and like the genie in the fisherman's bottle are ready to spring up in all their hideous strength to terrorize humanity. Nor does this apply only to the former times nor to the ignorant and foolish alone, for it is just as true now as when written over fifty years ago, that

"——— in this nefarious trade
Men of parts are dupes by dunces made."

And what a commentary on our Christian civilization that so many individuals are willing to play upon the fears and superstitions of their fellows for their sordid gains!

Apropos of all this, we have just received a copy of an effusion emanating from a graduate from a "Neurological College," which quite transcends anything that we have read in the line of absurd claims, misleading statements and downright mis-statements. It even quotes the scriptures in support of the wonderful new system—but as that great man said who seems to have been as one inspired, in his knowledge of human character, "The devil can cite scriptures for his purpose."

The founder of this specious system claims to treat over 500,000 cases annually, and characteristically adds that he doesn't see all these patients himself, but that he and all his fellow practitioners who have studied under him do—the habit of mis-statement is hard to break. He and his confreres desire above all "chronic cases, especially those that have been given up by others." They revel in cures of "dyspepsia," "indigestion," "biliousness," and

"acidity"; "heart troubles," "diabetes," "liver trouble," "female ills," and especially "cross eyes (no surgery)" are simply trifles to their master minds and wonderful system and so on *ad nauseam*.

The worst of it is just as in other confidence games, some unwary dupes are caught every day, and many probably pay the penalty for their credulity. How long will the people stand for such fleecing, we often ask in our exasperation. Probably until the medical profession will take the time and trouble to educate the people until it can tell the difference between the sane, conservative dignified claims of the science of medicine, and the flamboyant, contentious unsupported assertions of such "systems," "new discoveries" and the like.

EDITORIAL NOTES

CLINICAL NOTE.

AN ANALYSIS OF AN EPIDEMIC OF DIPHTHERIA AT THE JOHN MCINTIRE CHILDREN'S HOME, EDMUND CONE BRUSH, A. M., M. D., PHYSICIAN TO THE HOME, FIRST LIEUTENANT, MEDICAL RESERVE CORPS, U. S. ARMY, ZANESVILLE, OHIO.

Between the dates of March 19 and May 7, 1909, there were twenty-seven cases of diphtheria in the John McIntire Children's Home. At the time of the epidemic there were forty-three children and thirteen employes in the building. All of those affected were children. None of the employes had it. There were no new cases between April 16 and May 1. On May 1, 6 and 7 there was one case each day. The highest number admitted to the home hospital on any one day was three. This number was admitted on March 3, April 3 and April 10. The highest number in the hospital at any one time was fourteen, on March 26. The shortest time of any one patient in the hospital was four days. The longest seventeen days.

The maximum temperature of the mildest case was 100 degrees.

The maximum temperature of the severest cases was 106 degrees.

Ten had temperatures from 100 or over and below 102 4-5.

Eight had temperatures of 103 or over and below 104.

Six had temperatures of 104 or over and below 105.

Three had temperatures of 106.

There were no maximum temperatures of between 104.4-5 and 106.

One child had violent and prolonged spasms.

One child had diphtheric croup.

Two children had a general rash following the use of antitoxin.

Two children had what seemed to be rheumatism while convalescing.

Three children and one nurse had a local rash, that is, a rash surrounding the place where the antitoxin was used. The nurse was given an immunizing dose of antitoxin. She did not have diphtheria.

Four children had the nostrils plugged with membrane. These four also had extensive swelling of the glands of the neck. None suppurred.

All of the others had more or less swelling of the glands of the neck.

No child had any form of paralysis.

During the epidemic the state bacteriologist made four examinations, at different times, of throat scrapings of the sick. With the exception of the first case, all of the specimens were taken from the throats of the milder cases. He found the Klebs-Leffler bacilli in all of the specimens submitted.

Twice during the epidemic scrapings from the throats of the well children and the two nurses were prepared by Dr. J. R. McDowell and sent to the state bacteriologist. One child who showed the bacilli did not have the disease. Others who did not show any bacilli afterwards had diphtheria.

The source of the original contagion is not known. About six months previous to the epidemic six of those who had diphtheria had their tonsils removed.

The matron examined the throats of the well children once or twice every day and called my attention to a peculiar purplish tinge on the tongues of those who were going to have it and who as yet had no fever or throat symptoms. She could and did pick out each day the children who would have objective symptoms in twenty-four hours. I became interested in this matter and would go over the well children with her and make notes of the ones with the peculiar tinge on their tongues. So far as my observation went, the sign never failed. Text book literature seems to bring the discoloration of the tongue after the throat and constitutional symptoms are present.

THE TREATMENT.

First of all from two to three grs. of calomel in broken doses, so that it required two or three hours to get the last dose. Then in from two to eight hours after the last dose of calomel, a full dose of maltine with cascara or castor oil. There was no especial reason for giving maltine with cascara, only it is generally used in the home for a physic and we had it on hand. The throats were sprayed every hour with peroxide of hydrogen and if that gave pain, as it often did when the membrane began to curl up, we used a spray of boracic acid solution. The internal medication consisted in giving pepto manganate of iron with quinine every three hours. The diet consisted principally of milk given every two hours during the day and when convenient at night. Of course, the foregoing was varied somewhat as cases required. The remedy, however, that saved the lives and gave twenty-seven recoveries out of twenty-seven cases was antitoxin used promptly and plentifully. Its action in some of the worst cases, cases that seemed to be about "over the divide," was hardly short of miraculous. It is not often that a physician can have the opportunity of watching the action of antitoxin in bulk, as it were; and I firmly believe that without it there would have been at least four, if not six, deaths. These cases were of the kind that in times gone by, we have fought and have not conquered. The child unconscious, the nose plugged, the throat filled with a rotten exudate that made tender stomachs rebel, the eyes lustreless, and death waiting for its own. We can fight such cases now with chances with us for victory.

A few words as to the method followed of using antitoxin. A dose of three or four thousand units, the size depending on the age of the child and the severity of the primary symptoms, was given soon after the child came into the hospital, if there was no abating of the symptoms, or if the temperature and general conditions indicated progress of the disease, a second injection was given in six, eight or ten hours as might be needed; being still further guided by practically the same sign board, a third was given and so on. The two nurses were given an immunizing dose of two thousand units at the start. Neither had the disease nor did an examination of scrapings from their tonsils on two different occasions show any bacilli. I am of the opinion that as a rule little change should be expected from the antitoxin under four hours. This change is a lowering temperature, slowing of the pulse and respiration, and perhaps local or general perspiration. If the child is in a stupid, indifferent, semi-comatose condition, there will be a general return of ani-

mation, especially noticed in a renewed lustre to the eyes and a "taking notice" of things.

We all know that antitoxin does not cure *all* cases, but it has certainly changed the rate of mortality in a wonderful degree.

Some of the favorable conditions in this epidemic consisted in having everything convenient, perfect obedience, symptomatic feeding and medication, modern facilities for bathing, competent nurses. In fact, the surroundings were ideal and the care superb. A few cases presented some phases that made them of unusual interest.

Clarice Boyd, aged three years, on going to bed on the night of March 27, cried and complained of feeling badly. She had eaten a hearty supper and her governess had not noticed anything wrong until bed time. The child was found to have a temperature 102.2-5 and an inflamed throat. At 5 o'clock the next morning her temperature was 104 degrees, at 8 o'clock she had violent convulsions. I gave her three thousand units of antitoxin and was giving her a second dose of the same amount when she moved and part was lost. In all, she must have had at least 4500 units. In some eight hours the child's condition began to improve and no more antitoxin was needed.

Charlotte Boyd, aged five years, and a sister of the above, was admitted on April 10. Her condition was so favorable and the disease pursued such a mild course that she rebelled against being in bed and was allowed to sit up in bed and have her dolls and other playthings. She was given the usual routine treatment, but no antitoxin. On the evening of April 15, or five days after the onset of the disease, she was taken suddenly worse and developed severe croupous symptoms with evidence of collapse. The nurse was instructed, by telephone, to give an emetic at once with normal salt solution per rectum. Shortly thereafter, during a struggle in vomiting, she threw out a cast of the trachea. She was given 3000 units of antitoxin and made an uneventful recovery. There is a chance for speculation in this case. Would the child have had membranous croup if it had had antitoxin in the early stages of the disease?

Flora Sorrell, aged eight years, was admitted on April 3 at 4 p. m. with a temperature of 104 degrees. At 1 p. m. on the next day her temperature was 106. She was given 12,000 units of antitoxin during the first twenty-four hours of her admission. She was entirely indifferent as to her surroundings for thirty-six hours, but could be aroused to take medi-

cine and nourishment. She had severe and persistent subsultus tendinum.

A few words as to the antitoxin. Three makes were used, and I could not discover any difference in the results obtained. Lederle's concentrated was a favorite because of the small bulk. This was used in the arms of the older children and the nurses. Other manufacturers put out a concentrated form, but Lederle's happened to be in stock in one of our drug stores at the time.

FOREIGN NOTES.

VIENNA.

CASSIUS M. SHEPARD, M. D.,

Orthopedist to Grant Hospital, Columbus.

I had been in Vienna but a very few weeks when I began to receive letters from my friends addressed to Vienna, Germany, instead of Vienna, Austria. It is surprising how many made this mistake, failing to realize that it is Austria and not Germany that is proud in the possession of "the Paris of the East," as the city is sometimes called.

The city is beautifully situated on the south bank of the Danube river—the beautiful "blue Danube," and there are probably two and a half million inhabitants of such a variety of types that one can readily meet representatives of almost every nationality on the face of the earth. Old Vienna is not exactly on the Danube river, but is some miles to the south. However, the river is brought to the city by the Danube canal, an artificial waterway which has existed for many years and which flows through the new city, touching at one side the Ring strasse.

Every author who has written of the Danube river has spoken of it as the *blue* Danube, but I think I must be color blind, for every time I have had the good fortune to see it I have never been able to make out but the ordinary color of the ordinary river. However, it is beautiful, and is rapid and lively as it emerges but a short distance above Vienna from the Bavarian Alps. It is navigable from Salzburg to the east and it is said to be a very fine trip in the summer to go by the river to Buda Pest—three hours away by rail.

Vienna is old—everybody knows that. It was until recently a wall city, just as Nurnburg and Rothenburg are today. Emperor Francis Joseph ordered the walls down some forty years ago, and had one of the most beautiful streets in the world made on the foundation. The beauty of this street is not in paving, or street car tracks, but rather in the width of the main thoroughfare, with the well

appointed side drives, flanked by excellent parks and fine buildings. These buildings were almost all erected at about the same time, following the destruction of the walls, and are practically of the same type of architecture, and of the same height.

The Ring strasse surrounds the old city, and is commonly spoken of as "The Ring." At one side it touches the Danube canal and the two form a very beautiful boulevard. That part of Vienna within the Ring is the most interesting part, and is noted for its peculiar buildings and crooked and intricate streets, and its many fine as well as ancient structures. The new city is all that part of Vienna that lies outside of the Ring strasse, and extends for miles in all directions. Some, in fact, much of the new part is quite old to Americans. In order to find a new, modern building it is necessary to go out many miles from the old city, and even then those with modern conveniences, such as hot water plumbing and modern heating facilities, to which all Americans are wedded, are quite rare.

The Viennese architecture as a rule limits itself to six or seven stories, excepting the churches. These, however, soar heavenward with their spires, and St. Stephen's spire is but a few feet short of the height of the Washington monument. St. Stephen's church is one of the old churches, and is practically in the center of the old city.

The city streets are narrow and crooked, and *durchgangs* (short cuts for pedestrians) are so common that in time when one has learned the ways one may get about in a manner amazing to the newcomer, who may be taking his first glimpse of the city. Some of these passageways seem to go through private houses, at least there are numerous doors opening into rooms directly from the tunnelled way.

We arrived in Vienna at 9 o'clock at night, in the month of November, and were unfortunate enough to find that winter had already set in, notwithstanding the fact that Vienna is looked upon as a city of very mild climate. The usual howling mob of cabbies awaited our appearance from the depot, and after some trouble I selected one and we were taken to the hotel and shown to a room only to find that it was apparently without heating facilities whatever. In the corner of the room was a huge monument-like affair on which one might expect to find the familiar "Here lie, etc., etc.," but on examination, to my surprise, it proved to be a giant stove in which I was told that a fire would be furnished for the sum of two kronen (50 cents) for the night. The circumstances and temperature of the room were such as to require some heat, so the fire was ordered

and in the course of three hours' time the stove, which was about six feet high by three otherways, began to warm enough so that one could appreciate that there was some difference in temperature between it and the room. During the night the stove evidently warmed up, and by morning the room was quite comfortable. I learned later that the majority of the homes in Vienna were heated by these tall, largely proportioned porcelain stoves, which seem to be built into the corner of the room, and are capable of giving considerable heat if properly managed; they must be fired up some hours beforehand in order to become thoroughly heated, after which they give out warmth for several hours. Of course, one always pays extra for fuel, and in this as in most things it is almost impossible to make a compact with a landlord or landlady whereby it can be furnished for a particular sum. You pay so much per week for your room, so much for your meals, a light is usually extra, and it goes without saying that you are expected to pay for every bucket of coal you burn at the rate of about \$1.50 per bushel.

There are many things of more or less interest along these lines, about which I might write, but it is rather of medical and surgical matters, as viewed by the American physician visiting Vienna for the first time that this article is to deal. Now remember, I say for the first time, as the student who makes the second visit is wise. He knows what he wants and how to get it.

For several years the American physicians studying in Vienna have had an organization called the American Medical Association of Vienna, with headquarters at the *Kafe Klinik*, one of the typical Viennese resorts where light food and unlimited drinks may be had. Sooner or later all newcomers gravitate to the headquarters of this Association to register their names in the book of the Association, and to sign for such courses as they may desire. The cafe is just across the street from the *Allgemeines Krankenhaus*—the old General Hospital—and is thus easy of access, and is a loafing place for all American and English physicians. This Association was formed with the idea of cooperation with instructors and specialists of the university, in order to provide courses of instruction in all the various branches of medicine and surgery, for English speaking physicians who are seeking special work in Vienna. The active membership is usually one hundred, and is composed of Englishmen and Americans, with a few strays from other countries.

The organization is officered and managed along the same lines as the American Medical Associa-

tion, but is much given to politics and internal connivances. This, however, is no fault of the primary intention, but rather of the men who have the controlling powers from time to time. Through the dean of the university, and the president and the officers of the Association, a somewhat elaborate system of courses covering all the specialties of medicine and surgery have been provided. At the headquarters—the Kafe Klinik—the registration book is kept, in which every physician coming to Vienna for medical study should sign his name, and the date of his arrival. The date of this signature has a great deal to do with precedent in the matter of courses one may desire to take in the future. The library of the Association is kept here also. At present it is not very large, but is growing rapidly, so that in the course of a few years at most, quite a number of books will be at the service of the members.

A blue book is issued by the Association two or three times a year, which goes into detail in regard to the matter of courses, boarding houses, and all other information which is necessary to the new arrival. A study of the blue book will disclose the fact that there are quite a number of specialists ready to start courses at any time, and if a course in any branch is filled and there are more who desire the same work at the same time, there is always another specialist to be found who can supply at short notice the desired instruction. That is a feature that impressed me very early in my stay in Vienna. This does not mean that the work given by the instructor of the second course is a makeshift. It is not unusual to find such men in great demand owing to their unusual ability brought about by long and diligent service in the capacity of assistant to the professor at the head of the particular department. There may be several courses in the same branch being taught by good men. However, there is always one man in each course who is considered *the* man to study under. For example, there is Tandler in anatomy. It is a rare pleasure to follow his course and learn anatomical facts from actual demonstration, that have never been heard of in Gray or Morris. He makes his demonstrations from the fresh subject and illustrates his points by numerous preserved specimens. He makes no apparent effort in his teachings, but opens his mouth and lets anatomical knowledge flow out.

Tandler's courses are in either English or German. He says: "You pay me the money and I give it you as you like. It makes me no difference." His English is quite as clear and definite, with the exception of the construction now and then.

Of thirty-five or forty courses offered on the

nose and throat, of twenty-five or more offered on the eye, and of about the same number offered on internal medicine, there are some two or three men in each who have international reputations and under whom it is the desire of almost every student to secure a place.

The courses are "regular" and "special"; the former are scheduled in the blue book as book courses, with the number of hours and the fee. As a rule each is composed of such a number of men as to be mutually convenient to the instructor and the students. The leader is the oldest man in the course from the point of registration, and it is to him that all fees are paid. He is a fellow of some autocratic power, and it is well to be on the good side of him at all times if you desire to continue in the course, as it is not an unheard of thing to have a name fail to appear when a new course is filled. No one is able to account for such an oversight but once the places are all filled no extra ones are permitted to crowd in. If there are enough men to form a separate course in a particular subject, some other instructor is taken on and the second course proceeds as the first.

Special courses are those arranged for two or at most three men. The fees are special and the hours are suited to those concerned. Many men avail themselves of special courses inasmuch as they can select more nearly the things they wish, and feel that they can get more out of their time and money expended.

Private courses are not subject to the blue book, and there are many men studying in Vienna who are not even members of the American Medical Association of Vienna, as they do not care to be bothered with the many unfavorable as well as the unpleasant things connected with the course work. They therefore arrange directly with a certain professor in their specialty for such work as they wish. These are men who are doing the good work not only in Vienna, but in every place where research work is being done. They are working alone, and have the full and undivided time of their instructor. I speak from experience, having had a taste of regular and special work, before settling down to private work entirely.

As soon as a course is organized it is posted in the Kafe Klinik. This is for the purpose of giving every man who is eligible an opportunity to put his name down. Eligibility consists in priority in the registration book. The system works out beautifully, provided the courses are posted properly and without having been previously signed up by half or two-thirds the number eligible to the course. However, this often

happens, nobody understands just why, but all agree that it is against the rules of the American Medical Association of Vienna, as laid down in the blue book. I observed, however, that cut-and-dried affairs all carry, just as they do in all well-oiled and supervised political organizations. It pays to stand in with the leader of the band if you care to make the most of your time and get a place in the course, lest you line up on the waiting list for months before a place comes your way. I have known of men who, after waiting weeks or months for certain courses, have finally given up in disgust and gone to Berlin or some other place.

The politics and juggling are not all with the Americans by any means. If two or more of the instructors, professors, docents, or hofrat professors, get into a misunderstanding about precedent, or some other irrelevant thing so far as the students are concerned, the whole system of that branch may be tied up indefinitely. One of the most important branches was thus tied up for three months during the past year. It was all brought about by an insufficient number of men wishing the course of the professor who had precedence over that professor desired by the students. Neither course could start because of the "dog in the manger," and yet there were fifty men who wanted the work and who were at much expense waiting for it, while all sorts of negotiations were fruitless, because of the pure bull-headedness on the part of these two Viennese professors of international reputation.

Not the least interesting of medical experiences in Vienna is the study of the classes of men that make up the body of American students. It is not uncommon to find men of fifty-five and sixty pursuing some particular branch of study, and it is quite common to find men of ten, fifteen and twenty years' practice taking a course in some particular specialty. These men are invariably workers. They come to Vienna to make the most of their opportunities. They know, as a rule, what they want. Such courses are selected as meet their desires and they improve every moment of time. Recent graduates from American colleges are notorious for the amount of knowledge they think they possess. For the first month or so such a man shines gloriously in and about the Kafe Klinik. In his courses he does not hesitate to argue with his instructor, to tell him what he has seen in the hospitals of New York, Chicago or Boston, and compare the numerous cases he has seen of this or that to the general disgust of

the instructor, to say nothing of the eventual derision of the other members of the course. Such a man stays as a rule but a short time, or if he does stick he becomes a thorough student and proves his worth.

Then there is another type frequently met in all centers of medical learning in Europe. He usually spends "several months abroad in very diligent study" in the eyes of his friends at home. I met such a man in Rome; he had then been traveling about for two months and was going immediately, so he told me, to Berlin to take up some very important medical research and would possibly come to Vienna later. Two months later he turned up there and in reply to my question in regard to what he had been doing, he said: "I have been in Berlin for the past three or four weeks, and have gone over all their material. I find they have absolutely nothing in which I am interested, and I have come down to spend a month in Vienna to see what they have here." To say I was quite a good deal surprised to meet a man who could find absolutely nothing to do in Berlin, from the standpoint of medicine and surgery, is putting it mildly. He remained in Vienna four weeks; he carried one or two courses, when he should have carried five or six, and left at the end of his time with the same opinion that he brought with him from Berlin. He expected to get back to the states sometime in March or the first of April, after having spent eight or ten months in "diligent research" in the large universities of Europe. Fortunately this type of man is not an every day occurrence, but I am told by men who have spent some years abroad from time to time that he is too often found for the good of the profession.

The opportunities in Vienna for study are unlimited. Clinical material afforded in the outpatient departments, so-called ambulatorii, is so plentiful that it is possible to see anywhere from twenty to seventy-five or eighty cases daily. This is true of all divisions of the specialties, such as eye, ear, nose, throat, etc., etc. Vienna alone does not supply all the material. People are coming from distances oftentimes for examination and treatment by the different famous surgeons and internists.

There is so much to be said about the possibilities in these various departments that I feel it will be necessary to devote an entire paper thereto, and I shall endeavor in another communication to explain these more fully, and in detail.

MEDICAL ECONOMICS

By J. W. CLEMMER, M. D.

THE JEOPARDY OF THE MEDICAL PRACTICE ACT.

Flavius T. Slagle, a prominent drugless healer of Columbus, was acquitted recently by a jury in police court on a charge of illegal practice, made by the State Medical Board. Character witnesses testifying to personal benefit from his manipulations, as is usual in such cases, had more weight with the jury than the evidence showing violation of law. The prestige of such acquittals makes all healers more defiant and aggressive. The next stand will be before the legislature demanding a State Medical Board to license healers, opticians and other classes to practice medicine without qualification.

The tendency of the present restrictive system of medical practice regulation toward non-observance and contempt must result in one of two things: Either medical men will defend the restrictive law by educating assembly men in the public policy of its provisions, or allow state medical standards to decline until the state will be compelled to adopt the definitive system in order to qualify practitioners for its own service in public office, public institutions, courts, etc. The state must maintain medical practice standards for its own service, and these standards will always measure up to those of the medical profession. If these standards are to be ignored under the present system, by allowing ignorant or half-educated men to practice, the same standards will be re-instated, sooner or later, under the definitive plan.

In this the state qualifies practitioners as at present for its own service and protection, but allows any one to practice medicine without degree or license, and says to the citizen, "You may employ any doctor you may desire." Since all legislation is primarily in the interest of the people it remains to be determined whether that interest is best subserved under the restrictive or definitive system. With the American notion of freedom and liberal institutions, unsalted statesmanship is too easily impressed with sophistical appeals for lowered standards and "open competition." The healers before legislatures practically say, "We are the people. We desire to exercise the God-given right to pray, to rub, to magnetize, without let or hindrance of law." Passing the point of class legislation, it is agreed that if the people

as a whole or as a majority really desire charlatans, healers and other camp followers to practice medicine without qualification, the profession will offer no objection. It is not a trade seeking selfish ends, but a calling whose organization necessarily looks to the public welfare. The medical profession could not and should not exist as an honorable calling, if it did not regard the medical interest of the people of primary and supreme importance.

In technical matters, such as the provisions of public health laws and medical laws, many laymen are not active because they do not understand their full import. The technical knowledge of medical men imply a duty and a responsibility to maintain sanitary and medical standards in the interest of the people. The medical practice act stands for the medical interests of the public. Before its enactment the state was over-run by fakirs and quacks. The same class of practitioners under the livery of healers are breaking down the provisions of this law. It is the duty of medical men to point out this danger and advise with law-makers in order that the restrictive system of medical practice may be maintained in its native integrity against the incursions of medical pirates and freebooters.

POINTERS FROM THE LEGISLATIVE COMMITTEE MEETING.

The attendance was small but select.

W. H. Christopher, of London, was interested in the law providing for county hospitals whose operation is suspended in the Fayette county courts. Eighteen counties have provided hospitals under this law. As soon as the technical obstruction is removed by a decision of the courts, or by amendment to the law, Madison county will receive a liberal donation for the new hospital.

The education of school children in disease prevention will encounter the opposition of the Christian Scientists as demonstrated in Michigan. The scrupulosity of this medico-religious cult does not recognize disease and looks upon education in prophylaxis as absurd and injurious.

Secretary Frost of the State Board of Pharmacy presented the "venders' bill" which provides for the regulation of peddling medicines

and medical supplies from house to house. The imposition and fraud practiced upon the people of rural districts by "medicine men" will be corrected in a large degree by the enactment and enforcement of such a law.

C. O. Probst, of the State Board of Health, presented a bill providing for the appointment of twelve deputy state health officers under the supervision of the board and in an advisory capacity in relation to local boards, with power to act in their stead in case of neglect, and to carry out the direction of the state board in matters of public sanitation. It was generally agreed that these deputy officials would extend the usefulness of the state board in the administration of public health interests. The working capacity of the board would be redoubled in many ways by means of agencies directly under its control. This public service would be free from political control. The state furnishes inspectors for elevators, trees, swine and cattle, public accounts, work shops, etc., why not provide for state sanitary inspection to protect the lives and health of the people from communicable diseases, dirty milk and other unwholesome food stuffs, impure water and unhealthy tenements?

The criminal abortion measure, the homeless Hector of medical legislation, re-appeared in better form under the care of our legal adviser, the Hon. Samuel H. West. This bill proposes to exempt the individual, as *particeps criminis*, when testifying to having submitted to criminal practice and to accept the ante-mortem statement of the victim. The lack of such evidence heretofore has rendered prosecution almost a hopeless task. The fear that such exemption might lead to embarrassing situations or even blackmail no longer deters the committee's support of an enactment of this kind.

The laws governing local boards of health in cities will be so amended as to prohibit their abolishment, and the transfer of the public health administration to boards of service by authority now vested in city councils. Under the Paine law, after January 1, a director will take the place of the board of service. The attorney general has decided that the new director will perform all the functions of the present board. Hence it is that the director of service would become the health board when so ordered by the council. The law of 1902 establishing health boards gave them independent

powers. In 1904 this law was so amended as to give councils authority to chloroform the sanitary boards in order to control political patronage under the service boards. The amendment to be made is to re-establish the 1902 law. Councils have abolished many boards and hold clubs over those remaining. Politics should be kept out of sanitation. They are incompatible.

The present defective law providing medical inspection of the public school children should give place to a bill to be introduced, now being carefully prepared by C. O. Probst, of Columbus, in a manner to secure, if possible, united action from all concerned.

Much interest was shown in the medical advertising bill. It is about the same as the one introduced heretofore. It prohibits the publication of cures for sexual and venereal diseases. Three years ago much interest was taken in this measure by the Woman's Federated Clubs in various parts of the state. Popular sentiment against this class of advertising is growing with the work of a number of social organizations. In a public hearing in committee of the House three years ago, representatives of the Ohio Associated Dailies agreed to compromise, to cease the publication of venereal cures. It is time that the home circle should be freed from exploitation of sexual and venereal diseases and their treatment by the stubbles of the medical profession.

The bill for the sterilization of the insane, criminal and other defective individuals, as inmates of the state institutions, came up too late for discussion and was referred to the state committee for action. The merits of this measure and its enforcement in the State of Indiana are presented in the July number of The Ohio State Medical Journal under "Medical Economics."

"The constitution and by-laws of the state association should be re-written. They have been amended, modified and changed year after year through several generations, until their language, if not their meaning, have become somewhat obscure."

An amendment to the medical practice act was proposed providing revocation of license for the advertising of cures for menstrual, venereal and incurable diseases.

It was said that much fraud and evil are practiced under cover of a license to practice medicine. The degree of M. D. is too often disgraced by practitioners who mistake the medical profession for a trade. The advertising specialist who furnishes copy either for news items or for advertising columns, or reprints for public distribution is in the same class of unethical practitioners who are too ready with the uterine sound or curette. There are two classes of physicians, the ethical and the unethical. Public sentiment and medical organization emphasize this distinction. Medicine, like other professions, is advancing public welfare more and more as its primary object. The unethical are doomed. A number of county societies exercise censorship over refractory members with a penchant to news item advertising, with good results.

Medical men do not give liberally enough to support the work of organization. Secretaries should be compensated for good service. Auxiliary committeemen should have their expenses paid in serving the county society. The annual dues are too small to meet the demands of organization work. "Five dollars dues scarcely meet our demands," said Toledo and Lucas county.

The dairy and food commissioner seems anxious to inspect stock medicines in physician's offices, and proposes a bill to that effect. He has authority to inspect pharmaceuticals on the market, and now he wants "power of entrance" to physician's offices to inspect the therapeutic dose. While making the rounds he will have an opportunity to explain his vote at the Denver meeting of the Association of National and State Dairy and Food Commissioners on the benzoate of soda question. In case of failure to vote at all on a subject whose importance "packed the house" the question turns upon the kind of Ohio representation "pro-benzoate or anti-benzoate."

Governor Harmon, it is said, will advocate a commission to take the place of boards of trustees in all state institutions, about twenty-five in number. Of this number there are eleven hospitals. Their object, of course, is the cure and treatment of the sick and afflicted. That a medical man (nominated by the state association) should be appointed on this commission is demanded by the character of the work, in the interest of the public service.

BORAX AND PURE FOOD.

It is interesting to note the wily machinations of the selfish crowd whose business interests are affected by the enforcement of the pure food and drugs act. At the Denver meeting of the food chemists, politicians joined the crowd and forced a resolution admitting benzoate of soda as a food preservative. In a Columbus newspaper there appeared recently an increased number of deaths from ptomaine a communication claiming an increased number of deaths from ptomaine poisoning since food preservatives are prohibited under provisions of the pure food law.

The lamentable death of the Hon. Charles A. Kloebe, of Celina, was cited in a heartless manner to show the increased number of deaths from ptomaine poisoning due to lack of food preservatives. Investigation made by the State Food and Dairy Commissioner Dunlap shows that the Kloebe family was supplied with seal-shipped oysters by a reliable dealer. From the same shipment other families were supplied, and no ill effects were experienced. Mr. Kloebe ate of oysters that had been kept after the first preparation and serving. Ptomaine poisoning, though playing a sad role in the death of a prominent citizen, had nothing to do with the question of food preservatives as claimed. This communication was signed by H. L. Harris, the press agent of the Pacific Coast Borax Company of New York. This company holds a monopoly in the borax business and manufacturers popular sentiment in favor of food preservatives. His methods are well known. He furnishes stock letters, the country over, for newspapers. Easy going medical journals also publish his trick copy.

Industrial interests for years fought the enactment of the pure food and drugs act and are now fighting its enforcement. The crowd is opposing Dr. Wiley and his work. The duplex Harris-Langdon agency for the Borax Company only illustrates the tricky methods employed by other interests. The referee board seems to have holes in it. C. A. L. Reed pointed these out to the Denver meeting. The resolution and the board, the trades people and the politicians gave pure food interests a black eye. Now comes one Harris alias Langdon imposing upon the public and medical press, misrepresenting public health interests.

The food preservative question is, still a live issue.

CURRENT MEDICAL LITERATURE

J. E. TUCKERMAN, M. D., Cleveland.

POTASSIUM IODIDE BEST GIVEN IN MILK.

Dock (J. A. M. A., Nov. 13, '09, p. 1607) calls attention to the neglect of an old but good method in the search for new ways of giving iodides. As he says, the new preparations of iodine have yet to be proven superior, while there are very few patients who cannot take the grain-to-the-drop sol. of potassium iodide administered in a glass of milk. Given singly in this way there is no need to consider the incompatibilities which might occur when the iodide is combined with other ingredients in a prescription. The milk effectually covers the taste.

NITRATES AND THEIR RELATIVE DOSAGES.

Wallace and Ringer (J. A. M. A., Nov. 13, '09, p. 1629) found by experiment the following relative dosages: "Three min. amyl nitrite, 1-60 gr. nitroglycerine, 1½ grs. erythrol tetranitrate, 1 gr. sodium nitrite are practically equal in strength of action on normal persons." Their experiments show that nitroglycerine by mouth acts in two minutes. There is therefore no need to give it by hypodermic to get quick results. Regarding deterioration they found the tablets very variable; the 1 per cent U. S. P. sol. quite stable, while dilutions were unstable. Solutions of sodium nitrite a week old should not be used. Erythrol tetranitrate chocolate-coated tablets retain their full strength but uncoated are usually quite inert.

STROPHANTHIN—DOSE AND INDICATIONS.

In these columns for May, p. 591, we reviewed an article by Stone on the action of strophanthin in collapse during pneumonia. He also (Bost. Med. & Surg. Jour., Oct. 21, '09, p. 5860) advises its use in broken cardiac compensation. It is of particular value where there is "air-hunger, restlessness and a sense of impending danger, and great discrepancy between the frequency of the pulse at the wrist and the number of contractions of the heart shown by the stethoscope." The crystalline strophanthin is very stable and is soluble in water. It may be obtained in ampules (Boehring) containing 1 mgm. to 1 cu. cm. of sterile water.

"A dose for an adult who has not been taking any other form of digitalis or strophanthus medication, and especially in all those cases where sudden collapse has occurred, should be 1 mgm. This will give immediate and powerful results, and will not have to be repeated for eighteen to twenty-four hours at the earliest, and there is practically no danger of heart block. Should, however, there be any question of previous digitalis medication, it is better to use a smaller dose and be on the safe side, even though the intravenous injection has to be repeated. And it will be found that many, even very sick, patients, and especially women, object to this operation, while others will beg for a repetition of the dose.

"In some favorable cases a single injection will suffice to restore tone to the heart and stimulate diuresis. In other cases the strophanthin will have to be resorted to time and again to help carry the patient along his downward course with the maximum of comfort. Here the physician will learn the size of the dose of strophanthin that is required to relieve the distress of the patient and to make the struggling ventricle work effectively enough to carry its load for the time being.

"Repetition of a milligram dose should not be made under twenty-four (24) hours, except in exceptional cases, and the condition of the pulse should be carefully noted before any such repetition is made. A high blood pressure is not necessarily a contra-indication, but marked brachycardia always is."

Boss (discussion, *ibid.*, p. 590) says:

"Digitalin acts too slowly; strophanthin is, therefore, the choice. Strophanthin is, of course, not ideal in its action and cannot replace the true digitalis effect produced by extracts of the digitalis leaves; but when immediate results are necessary to tide over conditions of collapse, or when, as is frequently the case, digitalis by mouth does not produce its effect, strophanthin given intravenously will usually give the desired impetus toward reestablishment of compensation, so that medication by mouth may be continued successfully.

"Personally, I have found the drug very efficient also in cases of myocarditis, where one would perhaps expect but little result."

Bailey (Jour. Pharm. & Exp. Therap., Oct., '09) gives the following facts in regard to crystalline strophanthin:

"The daily dose should not exceed one-half milligram of the crystalline strophanthin, as a rule, and under no circumstances should this dose be repeated in twenty-four hours, except after careful study of the effects on the circulation. Crystalline strophanthin may be given intramuscularly or intravenously. It should be dissolved in normal saline solution in the proportion of 1 to 4,000 for intramuscular injections and from 1 to 6,000 to 1 to 8,000 for intravenous use. It is a valuable cardiac stimulant when compensation is broken in chronic interstitial myocarditis or in any form of chronic valvular disease, but it should be used in this way only in emergencies. It is not suited for continuous use, and when continued stimulation is desired he states that digitalis should be employed."—Via Jour. A. M. A., Nov. 13, '09, p. 1692.

POST-OPERATIVE ACUTE DILATATION OF THE STOMACH.

Smith (Bost. Med. & Surg. Jour., Oct. 14, '09, p. 529) makes a careful analysis of the known facts regarding acute gastric dilatation and concludes that the essential etiologic and primary factor is a "general alimentary paralysis of which the stomach is but a part, although the important part. The obstructing factors are the paralyzed bowel and the paralyzed vomiting reflex, most likely of central origin and probably due to narcosis, but with peripheral injury contributing." The diagnosis is easy though many cases have undoubtedly been overlooked by not keeping the possibility of this complication in mind.

"Prolonged bile-stained post-anesthetic vomiting, or vomiting coming on twelve to thirty-six hours after operation in the absence of 'reasonable cause,' especially the frequent welling up of small amounts of bilious fluid without subjective relief, together with distention either general or epigastric, and a feeling of intense fullness and pressure in the epigastrium, should lead one to suspect the condition, and the stomach tube should be passed. Its use should not be delayed until the case becomes 'typical,' when the patient will be in collapse. Not all of the symptoms will be present in every case and they will vary greatly in severity. The overflow vomiting is the most characteristic sign.

"The condition might be confounded with acute intestinal obstruction, acute septic peritonitis (perforative) or acute pancreatitis. While it would be interesting to compare the symptomatology of these conditions for the purpose of differential diagnosis, it also seems entirely un-

necessary, inasmuch as the stomach tube will settle the diagnosis at once."

The condition is not rare but frequently occurs after surgical operations under general anesthesia. Smith believes that many mild cases are unrecognized and the patient is classed as one having a "stormy convalescence."

"The most constant and characteristic symptom is the welling up of small amounts of bile-stained fluid at a time when post-anesthetic vomiting should have ceased."

Emetics are useless. The stomach must be emptied by a stomach-tube and washed out with salt solution (sodium bicarbonate can be added if desired—Ed.) to cleanse it and to start peristalsis. The bowel must be emptied by enemas. "The paralysis is temporary and exists largely as fatigue from over-stretching of the stomach and bowel. The tendency is, therefore, to return to normal conditions. The degree of paralysis, however, may be so severe that once relieving the alimentary tract will not be sufficient, but in the majority of cases it will. A return of symptoms calls for a repetition of treatment."

"Saline enemas by the seeping method should be given to restore the fluids lost by transudation. Although morphine is an inhibitor of peristalsis, I believe it should be given, on the ground that the paralyzed tract needs rest rather than stimulation and that by rest the stomach and bowel will more quickly recover their normal tone."

(Many operators prefer to avoid the use of morphine. Certainly, if used, the amount should be as small as possible.—Ed.)

CAFFEIN NOT ANTAGONISTIC TO ACETANALID.

The Jour. A. M. A. (Oct. 25, '09, editorial) calls special attention to Hale's researches. While caffeine does to a certain extent prevent the slowing effect of acetanilid and antipyrin on the heart, it has "practically no effect on the contractile power of the heart." This should lead physicians not to rely on caffeine as a safe-guard against large doses of these drugs.

A SIMPLE METHOD FOR DRYING UP THE BREASTS.

Storrs (Surg. Gyn. & Obs., Oct., '09, p. 401) has found that the best way to stop lactation is to let the breasts alone. He says: "When the child is born dead, or suckling contraindicated, the breasts are left absolutely alone for the days

immediately following labor. Ordinarily they become considerably engorged the third day, and occasionally quite painful. Within the course of twenty-four to thirty-six hours the swelling begins to subside, disappearing entirely before the end of the week. Large and pendulous breasts are fitted loosely with a bandage to prevent sagging, but not to exert pressure, and probably once in twenty cases a single hypodermic of morphia or codeia may be necessary to relieve pain during the active engorgement. During the last four years we have entirely abandoned the breast pump, belladonna plasters, and tight bandages and have been delighted to see the secretion disappear more rapidly and with less discomfort to the patients than before."

SCOPOLAMINE—DANGERS FROM.

Nicholson (Jour. Missouri State Med. Assoc., Oct., '09, p. 237) concludes from experiments that the toxic effect of scopolamine and morphine is similar to that of morphine when given alone. Animals killed by toxic doses show the same autopsy findings as when morphine alone was used, i. e., congestion of the viscera. Scopolamine by itself is but slightly toxic for animals and "certainly does not produce and degeneration of the heart, liver or kidneys."

In discussion of this paper Dr. Dorsett (Ibid., p. 238) stated that the use of H. M. C. tablets (which are essentially scopolamine-morphine, the cactine having been proven a neutral substance) is not without danger to the child when used in obstetric practice. He cited instances in point.

Of more moment is the statement of Dr. Selig: "Regarding the scopolamine, it was my privilege to publish the first paper that was published in this country on that subject. I was chagrined by reports just like Dr. Dorsett has given, and on the basis of these reports I quit using it. The effects did not seem to be constant, and I was unable to get any definite opinion from Parke-Davis & Co. as to the cause of this. I never knew why this was until I saw a report by Cushney to the effect that there is one type of scopolamine which in the polariscope rotates the beam of light to the right, and another type which rotates to the left. One of these types has a depressing effect on the cardiac and respiratory mechanisms. It seems to me that it is unfair to your patient to use a drug that is so frail and unstable in its effects that it depends upon the direction of rotation. I have been absolutely unable to get any guarantee from the drug houses, and I have ceased to use it.

(From the foregoing it is clear that as yet the

routine use of scopolamine should be avoided by physicians.—Ed.)

TINCTURE OF WHITE SOAP.

Dunnington (Old Dominion Jour. Med. & Surg., Aug., '09) gives the following directions for the making of tincture white soap, which he recommends because it is less irritable to the skin, of pleasanter odor, and more easily washed off than the green soap. The name and formula proposed for this preparation is:

TINCTURE OF WHITE SOAP.

	For 1 gal.
R Of white soap, Conti's..	300 gram. 1200 gram.
Of ammonia stronger...	25 c. c. 100 c. c.
Of alcohol	350 c. c. 1400 c. c.
Of water, dist.....	325 c. c. 1300 c. c.

The specific gravity of this is 0.97, which is identical with that of tincture of green soap.

To make one gallon: Mix the liquids for it in one gallon jar and then add the soap, previously cut into coarse shavings. Crowd all the soap into the jar and cover it with a glass plate. After twelve hours stir, and again stir after some hours. Allow to settle twelve hours and then filter, decant or syphon off the clear liquid into a can which may be kept closed. There will remain a few ounces retaining the impurities of the soap, which may be used for less particular washing. If this liquid is exposed to evaporation for a few hours, ammonia and alcohol escape, and a mass of the consistency of green soap will be obtained.

This soap costs but \$1.50 per gallon and can be made for 60 cents if tax-free alcohol is available.

BOOK REVIEWS

DISEASES OF THE SKIN. By James Nevins Hyde, Professor of Dermatology in Rush Medical College, Chicago. Lea & Febiger, Philadelphia and New York. 1909.

Again Chicago comes to the front with a new book on Dermatology, and one for which we have none but words of praise. There are many textbooks on diseases of the skin and the eighth edition of Dr. Hyde can justly lay claim to being one of the best.

It is a good book and a strong book and being eminently up-to-date will become a safe guide for both the practitioner and the student.

Many new articles appear among them being the diseases of the warm countries. The plates are numerous and the halftone illustrations

are beautiful. The arrangement is good and the text concise so as to facilitate reference to any particular subject.

ESSENTIALS OF MEDICINE. A Text-Book of Medicine. For students beginning a medical course, for nurses and for all others interested in the care of the sick. By Charles Phillips Emerson, M. D., Late Resident Physician Johns Hopkins Hospital; Associate in Medicine Johns Hopkins University.

This work achieves the purpose of the author, in that it tells the story of disease and its treatment in simple language. It does not pretend to give technical descriptions of the various ailments in scientific terms, but it does succeed in giving the essential points in etiology, pathology, symptoms, diagnosis and treatment in terms which even a lay reader may comprehend. It covers the scope of medicine in a comprehensive and thorough manner. The chapters on diseases of the heart, kidney, and the infectious diseases are especially meritorious.

A HANDBOOK OF MEDICAL DIAGNOSIS FOR USE OF PRACTITIONERS AND STUDENTS. By J. C. Wilson, A. M., M. D., Professor of Medicine and Clinical Medicine in the Jefferson Medical College, and Physician to its Hospital; Physician to the Pennsylvania Hospital; Physician in Chief to the German Hospital, Philadelphia. 408 text illustrations and 64 full page plates. J. B. Lippincott Company, Philadelphia and London.

This volume will be welcomed by physicians and students as one of the most practical, sensible and convenient works as yet given to the medical profession. No one can examine it without at once being impressed with the fact of its great usefulness to the busy practitioner. Scarcely any subject in medicine is left untouched and each topic is treated in the most practical manner.

The subject is divided into four parts:

1. Medical Diagnosis in General. 2. Methods and Their Immediate Results. 3. Symptoms and signs. 4. Clinical Applications.

Part I covers a splendid description of medical topography which is supplemented by good illustrations. The pages devoted to "Examination of Patient and Case Taking" are full of practical instruction in which theory has no part.

Part II covers all known methods of examination from the simplest to the most elaborate. The subject is so presented that the be-

ginner as well as the more experienced practitioner may grasp the relative value of various methods. Careful instruction is given as to the application of methods and the sources of error in each. The chapters on "Examination of the Nervous System" and "Examination by X-rays" are especially to be commended.

Part III on "Symptoms and Signs" is so systematized it renders the reading and study of it a pleasure. Every possible symptom and sign seems to be included and the meaning of each is as clearly indicated as seems possible.

Part IV which takes up the last half of the work is really a textbook upon the practice of medicine with the omission of therapeutics. The author's method of dividing the discussion of diagnosis into direct and differential is most useful. The essential points in the diagnosis of a disease are clearly pointed out and in addition each condition with which it might be confused is suggested and the methods of differentiation given in detail.

INTERNATIONAL CLINICS, VOLS. II AND III, NINETEENTH SERIES. J. B. Lippincott Co., Philadelphia, and London.

Volume II of this series contains several excellent articles.

Shoemaker gives a good resume of the work in immunization against typhoid fever with personal observation and conclusions therefrom.

Carron de la Carriere explains very logically the recognized benefits of mineral waters in the treatment of syphilis and shows the advantages of respective European Springs.

Allyn's article on Tuberculous Sero-fibrinous Pleurisy and its Treatment is very good, as is also Wells on Diabetes, although it might be condensed somewhat. The treatment, especially the diet, will be of considerable practical interest to practitioners.

Under Surgery.—Daniel considers exhaustively the subject of congenital dilatation of the colon giving excellent illustrations by specimens and skiagrams.

Goodman gives a brief account of the much discussed Cammidge re-action and presents his own tables in favor of its clinical value. There are in addition several articles under the special departments of gynecology, ophthalmology, otology, psychiatry and pathology—making a well rounded out work in all.

Volume III.—This volume contains very interesting as well as practical contributions.

Lagane's summing up of the present status of anti-tetanic serum is very good and much to the point.

Waterson's article on Mesmer and Perkin's Tractors is amusing, of historical interest and timely in these days of "magnetic healers" and the like.

Ochsner contributes a brief but concise and clear article on surgery of exophthalmic goiter, Cumston, one on bi-ocular stomach and Algare a very practical one on the resection of varicose veins:

The selection of the contributions to the special departments is made with the usual care, which makes this volume well up to the excellent standard of the series.

CLINICAL TREATISES ON THE SYMPTOMATOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION. Part III—Angina Pectoris. Prof. Edmund von Neusser, Prof. of the Second Medical Clinic, Vienna, Assoc. Editor Nothnagel's Practice of Medicine Translated by Andrew McFarland, M. D., Prof. of Medical Jurisprudence and Phy. Diagnosis, Albany Medical College, etc. E. B. Treat & Co., New York City. Cloth, \$1.00.

This excellent monograph, preceded by the one on "Dyspnoea and Cyanosis" and another on "Bradycardia and Tachycardia" completes a very interesting series by the same author. The last production follows the same plan as its predecessors in considering its subject on broad and liberal grounds rather than being too dogmatic. The author shows a thorough grasp of the subject and illustrates his points from an evidently wide experience. The entire series will be found very profitable reading.

PATHOLOGY AND THERAPY. Part VIII—Gout. By Prof. Dr. H. Strauss, Prof. of the Third Clinic, Royal Charity Hospital, Berlin. Translated under the direction of Nellis Barnes Foster, M. D., Assoc. Physician to the New York Hospital, etc.

In considering his subject the author has evidently gone carefully over a very great amount of literature and gives the more important opinions and theories of the day. He considers the pros and cons fairly, not only of other's views, but also of his own.

The chapter on "Therapy of Gout" is particularly interesting, comprehensive and of especial practical value.

LOMBROSO'S BRAIN.

According to the wishes of the late Professor Lombroso, his autopsy was held in the am-

phitheater of the medical school at Turin. A number of professors and students were present. Evidences of interstitial myocarditis and atheromasia of the coronary arteries were found but the arteries in the brain were in good condition. Also in compliance with the wishes of the deceased, the brain was removed from the skull and given to Professor Boero to be preserved in the Institute of Normal Anatomy. It weighed 1308 grams. Lombroso had written a romance and poems by the age of ten, the next year two tragedies modeled on Alfieri's, and had published two monographs on Roman archeology before he was twelve. A year or two later he took up sociologic studies based on linguistic analysis of the Greek, Hebrew, Sanskrit, Coptic and Chinese, and before he entered the university had written two works on natural science.—Journal, A. M. A.

Brander Matthews, professor of dramatic literature in Columbia University, New York, gave a series of lectures on "Moliere" at the Cincinnati University in November. Of interest to physicians was his talk on Moliere and medicine. Moliere, it is well known, made much sport of the Paris profession in his writings and in his plays on the stage. In the little play, "L'Amour Medicine" Molliere introduced laughable portraits of the physicians of the times. The art of medicine had sunk very low in France in Moliere's time, in fact lower than it was a century earlier. The profession was vain and pretentious and unwilling to be lead from its erroneous ways, and Molliere was himself a victim of its incapacity, which was no doubt the real reason that he returned again in his writing to ridicule of the medical profession. Medicine malgre lui (physician in spite of himself) was produced by Molliere to satisfy his audiences. "Malade Imaginaire" was his last effort and was another thrust at the medical profession whose pretensions he could not abide. Seized with convulsions in the last act of "Malade Imaginaire" he was carried home and died immediately without medical attention. We owe to a profession so pretentious that it refused to accept the circulation of the blood because it came from England, also the use of antimony and quinine because the first came from Montpellier and the last from America. Molliere held surgery a mere manual art and unworthy of a learned profession. That it was unable to relieve Molliere is due the fact that we are still suffering from his satire. The Paris faculty of Molliere's time doubtless deserved much that he gave them.

STATE BOARD NEWS

STATE BOARD NEWS.

In the case of the State of Ohio vs. J. J. Boone, in which an affidavit was filed last April for failure to report a birth within the time limit as prescribed by the Vital Statistics Law, Dr. Boone waived examination at the preliminary hearing and was bound over to the grand jury. The grand jury returned an indictment, and Dr. Boone demurred to the indictment on the ground that the law was unconstitutional in requiring services without compensation. The court refused to sustain the demurrer, and the case has been placed on the docket for hearing December 16. There is no doubt but that the state will be able to convict in this case, as there are decisions from several other states covering similar cases.

The services required in reporting births is not altogether a service rendered the state. The service is really rendered the parents and the child whose birth is reported. The only value to the state is in securing the statistical information, and the value of these certificates as legal documents afford protection to the future interests of the child whose birth is reported at a time when the child is solely dependent upon some person other than itself, to make this record, and it is the duty of the physician to make this report, which at some future date may be of inestimable value to the child.

The Attorney General of Indiana rendered a decision in which he says a physician has not completed his work when attending a birth until he has carefully filled out the birth certificate and filed it with the proper authorities.

J. M. Earnst, of Alliance, whose certificate was revoked by the Board in July for habitually and indiscriminately prescribing cocaine for improper purposes, appealed to the Governor and Attorney General from the action taken by the Board. The matter is still under advisement.

NEUROLOGIST INDICTED.

Dr. (?) E. E. Brinkman, neurologist, Ashtabula, charged with illegal practice of medicine, was bound over to the grand jury by Squire Mason on September 14. At the elbow of his attorney sat Charles T. MacCormack, of Chicago,

secretary-treasurer of the "Independent Doctor's Association," and the head of the "MacCormack Neurological College," of Chicago. We have been notified by MacCormack that he would be present at all trials where his students were defendants. A free lecture in the Lyceum theater of Ashtabula was given on Sunday night prior to this hearing, evidently for the purpose of creating sentiment in favor of Brinkman. MacCormack was the center of attraction and announced his subject, "Independents Against the Regulars," or "The Meanest Trust in the World." On October 6 the grand jury of Ashtabula county returned an indictment. The date of trial has not been set.

MECHANO THERAPIST SUITS.

Dr. (?) E. L. Ellsworth, Mechano Therapist, of North Baltimore, who was convicted of illegal practice of medicine in June, and who was fined \$50 and costs, was tried upon a second count October 18 and 19. While the jury were out Ellsworth expressed a strong desire to quit and agreed to plead guilty to a third count in case he was acquitted, and be placed under the jurisdiction of the court pending good behavior. The jury acquitted him and within five minutes he had plead guilty to the third count, was fined \$25 and costs. The fine was suspended until further order of the court. We have been wondering what the jury thought.

HOOKWORM COMMISSION.

Mr. John D. Rockefeller, who has given \$1,000,000 to investigate and combat the hookworm disease, has selected the following commission to have charge of the administration of the fund: Drs. William H. Welch, Baltimore; Simeon Flexner, New York City, and Charles Wardell Stiles, U. S. P. H. and M. H. Service; President Edwin A. Alderman of the University of Virginia; Chancellor David F. Houston, of Washington University, St. Louis; P. P. Claxton, professor of education in the University of Tennessee; J. Y. Joiner, state superintendent of education of North Carolina; Walter H. Page, editor of the *World's Work*; Principal H. B. Frissell, of Hampton (Va.) Institute; Frederick T. Gates, Starr J. Murphy, and John D. Rockefeller, Jr.

COUNTY SOCIETIES

FIRST DISTRICT

E. S. McKee, M. D., Collaborator.

"The Major Smith Modification of the Modern Cataract Operation; or, Intro Capsular Extraction of the Cataractous Lens," was the title of a paper read before the Cincinnati Academy of Medicine October 4 by Robert Sattler. The essayist said in part:

From the time of Darel the subsequent evolution of cataract extraction reached its highest perfection through the genius of A. von. Graefe.

Modified linear extraction is the prototype from which all of the various modifications have been evolved. In a sweeping way technical imperfections and difficulties were swept away, and cumbersome instruments replaced by simpler ones and their number reduced.

The narrow knife, the safest location for and character of the incision, the iridectomy, are still retained and looked upon as part of the modern perfected method of linear extraction.

Of the latter, the first and second steps have undergone advantageous modification. Iris incarceration at the angle of the wound, etc., are now uncommon happenings. A small coloboma has been substituted for the larger one. Asepsis and local anesthesia have made the initial steps of the operation of less concern to the surgeon and almost painless for the patient.

The third step, opening of the capsule, has not undergone the same progressive evolution toward perfection, lessening of dangers, etc. Nevertheless, important modifications—i. e., excision of the anterior capsule with cystotome or capsule forceps—have been adopted, but complications occur in spite of all skillful attention to technical detail.

From the many suggestions only three claim recognition. The first long forgotten one was done by Hasner, of Prague. He ruptured the hyaloid immediately after extraction was completed to secure a permanent opening in the capsule. The second was the daring and brilliant one of Pagenstecher, of Wiesbaden, who extracted the lens in its unbroken capsule. The third was the excision of the anterior capsule with capsule forceps, etc.

Pagenstecher has not had many followers, owing to greater technical difficulties and the bugbear of loss of vitreous.

In 1906, based upon an almost phenomenal ex-

perience with cataract extraction, Major Henry Smith, an English surgeon in India, proposed a radical modification of the third step of extraction—the complete removal of the lens within its intact capsule. A revival, but accomplished along wholly different lines from the one of Pagenstecher. Even at present, opinions are divided concerning the advisability of sanctioning the claims of so radical a modification, even though it offered a means by which the troublesome post-operative complications are prevented.

Technically speaking, the first and second stages of cataract extraction are the difficult ones. The third, delivery, is more easily accomplished.

The Major Smith operation does not, except in minor details, affect the incision or iridectomy. Its main attack is the capsule and the purpose its complete and permanent removal. One must have personal proof that this can be done and must be a looker-on at a successful and uncomplicated delivery of the lens in its unbroken capsule to be convinced. Compare the passage of the lens within its capsule, a smooth convex structure, with the forced extrusion of a hard and irregular mass of lens tissue, not smooth and often broken up in fragments, and the anxiety of the operator that he may not succeed in removing all the lens matter. What is more surprising, few or no complaints of discomfort follow the complete removal of lens or capsule. Also iritis or iridochoroiditis are uncommon.

Another gratifying feature is that immature cataracts can be more safely done than when the capsule is opened.

An impartial judgment of the merits of the Smith modification must assign to it one of practical importance, and, if not indicated for all, certainly for the largest contingent of extraction. Its execution is more difficult, and the operator must face the danger of loss of vitreous in every case. It affords a clearer field of operation. If the lens cannot be made to rotate and great tension is consequently made on the zonular, all further attempts must be abandoned and the lens shoved up and out of the eye, with the flat spoon placed against the posterior covered surface. The signal feature of the operation is the rotation of the lens. This cannot be counted upon to take place with certainty in flat, thin, sclerosed lenses.

The more rounded the lens the more certainly can its rotation be expected.

"The Municipal Care and Control of Tuberculosis" was the title of an address before the Cincinnati Academy of Medicine October 18 by W. C. White, the medical director of the Anti-Tuberculosis League at Pittsburg. The fight against tuberculosis, he said, should be put on a square business basis. That means organization. Sentiment will never kill tuberculosis. In Cincinnati 900 persons die each year of tuberculosis. Each of these lives has a monetary value. It therefore becomes a question of public business as well as personal sentiment. He urged that the work be centralized under the board of health. The various institutions need correlation and control. Their work would be far more effective and the cost of operation much less. There is no reason why this work should not be carried on with as much business system as that of a corporation. Other cities are centralizing the work and preventing the confliction and overlapping. Inasmuch as the stamping out of tuberculosis is essentially a health problem, the work should be given exclusively into the hands of the health board. The dispensary is the greatest of weapons. It is the first battlefield. Here the nurses are trained, reports on individual cases are kept and followed up, the early cases distributed among the fresh air and work camps, the fumigation of infected places controlled and the general work of supervision carried on. You can see why this institution should be carried on by the board of health. In Pittsburg, New York, Edinburgh and elsewhere the dispensaries are doing a vast work. He considered it wrong to pauperize the sick, and therefore those under care at these institutions should be charged certain fees for treatment. There should be a day camp for recreation and rest and a night camp for sleeping within the limits of the city and not without, as it is not always the best practice to transport patients on street cars. In fifty years Massachusetts has reduced tuberculosis 50 per cent. The reduction in New York in sixteen years amounts to 40 per cent. In London, Edinburgh, Vienna and elsewhere similar results have been reached. He said that the opportunities for putting up a successful fight against tuberculosis in Cincinnati were superior to that of any city he knew of. You have already established and in working order the institutions and organizations of importance. If Cincinnati will correlate these institutions under one head, the board of health, she would take the lead in the fight against the white plague.

A. P. Cole, of Cincinnati, read a paper before the conference of health boards in Cincinnati in

October on the subject "Prevention and Treatment of Rabies." He asked what should be done with a dog whose actions were suspicious, though there was no evidence of a suspicious bite. The animal should be shut up securely and observed by a skilled veterinarian. If it has rabies, it will surely die. When in doubt as to the cause of death, the animal's head should be sent to a laboratory where microscopical and biological tests can be made as to the presence of rabies. Every animal bitten by a dog known to be mad should be destroyed at once. When rabies is suspected in a given territory, all dogs should be muzzled at once. That rabies is epidemic in the United States reflects on our ability in the department of sanitary science, said Dr. Cole. Rigid application of the laws of sanitation have banished yellow fever, cholera and the plague. The same laws are now in mortal conflict with smallpox, typhoid and malaria. It is in our power to absolutely exterminate rabies. He pointed out that rigid legislation had prevented rabies in Australia, where every imported dog is quarantined for six months. In Great Britain 147 humans and 2554 dogs died of the disease from 1887 to 1898. There has not been a case since 1902 through rigid laws for the regulation of dogs. In Berlin, with an average of thirty-five deaths a year, legislation strictly enforced has brought about a condition under which there has not been a case since 1888. He quoted the recommendation of the American Medical Association that the disease should be placed under the control of the Bureau of Animal Industry, as diseases of cattle are now, and that all states should require that every dog allowed to run at large should be required to wear a muzzle for the space of one year.

The November work of the Cincinnati Academy of Medicine was as follows:

November 1.—"The Relation of the Diseases of the Upper Air Tract to the General Health," J. A. Thompson.

November 8.—Special meeting. Address by Joel E. Goldthwaite, of Boston, on "Our Present Understanding of the Rheumatoid Diathesis." This meeting was followed by a reception for Dr. Goldthwaite and was graced by the presence of a professor of internal medicine of Tokio, one of the visiting delegation of Japanese who was present. Dr. Goldthwaite's address was interesting and dealt with the causation of the rheumatoid diathesis, much, he thought, being due to infection from the ptosis of the stomach wall, ingesta not getting out of the stomach as readily as it

should, but remaining there to poison the system. His anatomical description of the cause of this and its effect and the treatment of the same was of much interest. He related movements and position for the relief of the condition.

November 15.—A case of fracture and necrosis of the external condyle of the humerus, reported by J. E. Pirrung, and a case of hematuria by Carl Hiller. A paper on "Prostatectomy" by E. O. Smith, and a paper on "Routine Induction of Labor at Term," by M. A. Tate.

November 22.—"Atony and Dilatation of the Stomach," C. C. Fihe. "Carcinoma of the Stomach," Frank L. Ratterman.

November 29.—Reports from Dr. Quenton's clinic at Paris on the hypodermic sea water treatment by Julia W. Carpenter. Case reports.

"Medical Cincinnati of Yesterday, Today and Tomorrow" was the title of an address before the Warren County Medical Society by Otto Juettner, of Cincinnati, author of "Daniel Drake and His Followers," at the August meeting of that society. After a review of the medical history of the past and its glories he said in substance:

Medical Cincinnati is at present passing through a most critical part of her history. Once the undisputed queen of Western medicine, she has been relegated to apparent obscurity—today not the foremost city of her state, as shown by public medical records.

All hope and pray that the newly organized medical department of the University of Cincinnati may rise to the highest pinnacle of success. If this hope is realized, we must not only establish an educational standard for our students, but more especially for our medical teachers. The standard for the teacher must be higher than that for the student. Apply such a standard impartially to our present teaching staff and there will be no trouble in getting rid of unfit timber with which it is loaded down. If this forcible elimination is not resorted to, our medical school will be a deservedly dismal failure. The least that can be expected of a teacher who holds a position in a university is the possession of a university education. Our university is practically a part of the political machine which controls the town. If the political boss wishes to put his favorite henchman, who may have no education more than was once necessary, there is nothing to prevent him. He may have a son, son-in-law and brother-in-law, who are given positions, re-

gardless of worth or of others. We have had ample opportunities of witnessing this and its disastrous effects. There are two very excellent doctors on the university board who could do a great deal of good were their time not entirely taken up in watching the private or sectional or proprietary interests of the old Ohio and Miami schools respectively. The medical teacher of tomorrow must be a teacher by vocation and by profession. The day of the amateur teacher who is in active practice and holds a professorship as a side issue to satisfy his vanity or enhance the returns from his practice is rapidly waning. The teaching of modern medicine to modern medical students is a species of work which is rapidly expanding in its scope and becoming more exacting in its requirements. The man who attempts to do it should give all his time to it and be adequately paid for it. The giants of the past loved the common cause. The manipulators of medical politics of today do not know a common cause. With malice towards none and charity for all, under present conditions there is no future for medical Cincinnati. If the political element is eliminated, if a standard of educational qualifications for teachers is established and a premium placed on merit, then we will see a greater medical Cincinnati arise that will be resplendent in all the glory of her heroic past. This is a consummation devoutly to be wished.

At the October meeting of the Warren County Medical Society, William Mithoefer, of Cincinnati, read a paper on "The Submerged Tonsil." The speaker first drew attention to the lack of appreciation of the clinical importance of these structures and the frequency of diseases conditions therein being overlooked from their position and their not being investigated as a matter of routine. He explained the causes of submergence of the tonsils and classified the various types encountered as follows: (1) Visible hypertrophy, with submergence; (2) submergence of the upper pole; (3) completely submerged.

He described the first as presenting a protruding hypertrophied portion, plainly visible, with a submerged part, which may be of extreme size. Often the visible part is removed and the submerged mass is left behind. This results in no improvement, and often the patient complains of being worse off than before the operation.

In the second variety he stated the lower segment stands out rather prominently between the pillars, the upper pole being submerged. In the

latter segment the crypts are often filled with cheesy masses. This area he calls the vulnerable spot, as it appears to be rather frequently the seat of primary tuberculosis.

In the third variety the tonsil is completely submerged and may be frequently overlooked. The surface may be flat and scarcely noticeable, and yet the organ may be the seat of a chronic general infection.

He recommended a special examination as a routine practice in all cases in which there is a possibility of tonsillar involvement, and suggests the following method: After the use of cocaine, insert a pillar retractor or a probe bent at right angles behind the anterior faucial pillar and draw it forward; apply a tongue depressor to base of tongue and press firmly. As the patient gags the submerged tonsil comes clearly into view. The size of the tonsil may be learned by seizing it with forceps and drawing it upward. In children it is seldom possible to use this method, and palpation with the index finger of one hand within and the fingers of the other hand at the angle of the jaw will be fairly satisfactory. He classified the effects of submerged tonsils as follows: (a) Local; (b) remote.

Local effects: Deafness, tinnitus, peritonsillar abscess, nasal turgescence, pharyngitis, laryngitis, fetid breath, defects of speech.

Remote effects: Gastric disturbances, chronic bronchitis, cervical adenitis, septic arthritis, tuberculosis, endocarditis, nephritis, etc.

He discussed the role of the tonsil in disease and its relation to the production of the above mentioned effects, emphasizing the necessity in treating any of the latter of looking for any such underlying cause and removing it. For conservative treatment in robust children he recommended the daily application of: Iodine, 1.0; potass. iod., 1.3; ol. menth. pip. gtt., iii; glycerin, 30.0.

In the majority of cases, however, he considers the radical operative treatment necessary, and these should be carefully and thoroughly carried out. In conclusion, he again emphasized the menace of the submerged tonsil to the health of the individual and the necessity of one's being on guard against overlooking its presence.

SECOND DISTRICT

R. H. GRUBE, M. D., Collaborator.

At the meeting on November 15 of the Clark County Medical Society in the Commercial Club rooms, at Springfield, papers were read by P. W.

Brown, on "Cerebral Hemorrhage," and by Arthur Pancake on "Cerebral Embolism and Thrombosis."

The Montgomery County Medical Society met November 19. The program was as follows: "Surgery of the Perineum," C. H. Humphreys; "Treatment of Varicose Ulcers and Veins," F. C. Gray.

At the meeting of November 5, papers were read as follows: "Early Diagnosis of Incipient Tuberculosis," E. B. Markey; "Pott's Disease," A. O. Peters; "Treatment of Tuberculosis," J. S. Beck.

Important amendments to the by-laws were acted upon at the meeting of December 3.

THIRD DISTRICT

H. B. GIBSON, M. D., Collaborator.

The Van Wert County Medical Society met November 3. Walter H. Snyder, Toledo, president of the Ohio State Medical Association, addressed the society. Papers were read as follows: "Retro Displacements of the Uterus," Charles W. Moots, Toledo; "Treatment of Drug and Alcoholic Psychoses," Frank D. Ferneau, Toledo.

FOURTH DISTRICT

L. A. LEVISON, M. D., Collaborator.

The Surgical Section of the Academy of Medicine of Toledo and Lucas County met October 22. Charles N. Smith read a paper entitled "The Latent Gallstone." He said in part that in the light of our present knowledge of the initial symptoms of gallstone disease and of the slight or characteristic symptoms of latent gallstone, we must believe that in every case they have produced, do now produce and will continue to produce a certain train of symptoms so distinctive in nature that a positive diagnosis depends only on a correct interpretation of them. The three symptoms which are mentioned almost invariably when cholelithiasis is in consideration are colic, jaundice and putty colored stools. Every one of these symptoms is a late or terminal event, occurring after a more or less prolonged period of occupancy of the gall bladder by the stone, during which period distinctive and diagnostic symptoms are present and should be correctly interpreted. One of the most important advances in the surgical treatment of diseases in the upper abdomen accrues from the recognition of the fact that 80

per cent. of the cases of chronic pancreatitis are the result of gallstones and the sequentially occurring infections of the biliary tract. Medical and hydropathic treatment, both confessedly powerless insofar as absorption or removal of the concretion is concerned, aim only at the control of the symptoms through abatement of the infection. Surgery, advancing on the limited possibilities of medicine, by one safe and eminently successful procedure, removes simultaneously the causal gallstones and the resultant infection.

W. J. Stone read a paper on "The Latent Duodenal and Gastric Ulcer." He said in part:

Duodenal and gastric ulcers are more common than supposed. Most of them are masked under the symptoms and diagnosis of functional hyperchlorhydria. The acute forms, with severe recurring hemorrhages, in certain cases may demand surgical interference, although such patients are in an extremely critical condition and the surgical risk extremely hazardous. Many recover under medical care. Perforation demands first of all early diagnosis. Fully 60 per cent. are wrongly diagnosed under appendicitis, ruptured gall bladder, intestinal obstruction or acute peritonitis, not stating the cause. The earlier the interference the better the results. Gold stücker, who has recently reviewed 236 cases of perforation, found that of those operated within the first twelve hours the mortality was 29 per cent.; after twelve hours, the mortality was 54 per cent. Robson found among 155 cases of perforating ulcer in the literature of 1907 that the mortality among those operated during the first twenty-four hours was 37.7 per cent.; after twenty-four hours, the mortality was 85.5 per cent. In about one-fourth of the cases in the literature of perforating duodenal ulcer no previous dyspeptic symptoms suggestive of the condition had existed. Morot has estimated that fully 20 per cent. of gastric and duodenal ulcers are latent, while Perry and Shaw, who examined 151 cases post-mortem, found that no history suggestive of the condition could be obtained in 60 per cent. Fully 75 per cent. of uncomplicated ulcer of duodenum or stomach are cured by medical means, the remaining 25 per cent. becoming chronic and may be classified under (1) chronic ulcer, with active symptoms such as pyloric spasm, scar contraction, perigastric adhesions or malignant transformations, or (2) chronic ulcer, with latent symptoms, which may be defined as that type giving rise to periodic attacks of distress at the height or end of gastric digestion and simulating in a large percentage of cases neurotic or functional hyper-

chlorhydria. Hemorrhage or vomiting are not necessary symptoms of chronic ulcer. The attacks are periodic, lasting a month or two, with recurrence after two or three months. The distress is relieved by taking food, milk or an alkali. Supersecretion, which is a far more important diagnostic sign than hyperchlorhydria (which exists in about one-half the cases), is practically always present. The finding of 50 to 100 cc. hyperacid secretion in the fasting stomach is extremely suggestive of ulcer. Patients often complain of raising a mouthful of acid secretion from the stomach when the organ is supposedly empty. Elaborate laboratory investigations are not necessary. The longer the pain is relieved by food the more probable is the lesion duodenal rather than gastric. The typical pain of chronic duodenal ulcer occurs from three to five hours after a meal. Pyloric stenosis in infants, when due to pyloric spasm from hyperacid contents (not the true congenital stenosis due to hyperplasia), may be the result of reflex irritation from a pyloric or duodenal ulcer. In an infant of six weeks dying in thirty-six hours with symptoms of laryngismus stridulus and pyloric obstruction, an ulcer one centimeter in diameter was found in the duodenum. No true obstruction existed.

The differential diagnosis should in general exclude cholelithiasis and in particular functional non-organic hyperchlorhydria. Chronic ulcer of duodenum and stomach are not as a rule cured by medical means. Such patients may, however, barring the contingency of severe hemorrhage or perforation, be fairly comfortable with a carefully regulated diet and appropriate medical treatment. If these measures fail after a reasonable time, surgical aid offers the best hope for cure when performed by those experienced in the surgery of the upper abdomen.

George M. Todd reported a case of osteomyelitis.

W. H. Snyder read a paper entitled "Operative Treatment of Glaucoma." Dr. Snyder said that glaucoma passed for an incurable disease until Von Graefe discovered the curative action of iridectomy. From that time until this, many methods of doing this operation have been devised, none of which, however, has been able to displace iridectomy.

In primary inflammatory glaucoma, there is no dissenting voice to the statement that this operation should be done as early as possible.

Even in the prodromal stage, if the patient is sufficiently intelligent to realize the importance of this, the operation should be done at the earliest possible time the diagnosis can be made. However, this is seldom accomplished, and we usually operate in the first inflammatory stage, even under the most favorable circumstances, and with intelligent patients. The maxim should be laid down, that the earlier the operation, the better the result, as regards sight, freedom from pain, and the chances of a perfect recovery. In acute inflammatory glaucoma, the result is extremely favorable; the pain, redness, and cloudiness of vision often clear up like magic, and the vision may become normal. But if many of these inflammatory attacks have been experienced, the high pressure causes atrophy of the optic nerve fibres, so that the disturbance of vision will persist if this atrophy amounts to any considerable extent.

In chronic inflammatory glaucoma there is no question but that this operation should be done. But here, cloudiness of the media, excavation and atrophy of the papilla of the optic nerve make it impossible for us to determine accurately what our results are to be regarding the vision.

In glaucoma simplex, or the non-inflammatory type, the loss of vision is usually caused solely by the changes in the papilla in the nerve, the media being clear. Naturally, in these cases all one would expect would be to approximately hold the vision the patient had previous to the operation. We can stop the increase in tension, and with it, the advance of the disease. If these cases show no increase of tension, however, iridectomy, in my experience, is useless; and the more pronounced the increase in tension is, the greater promise of a permanently good result.

It can easily be seen by reference to the slides which I shall show, that in these old chronic inflammatory cases it is not easy to attain the desired effect; namely, the opening of the filtration angle, which may keep the tension down to a normal limit. And it is possible that in some cases, iridectomy may disturb existing relations regarding drainage, to such an extent that the iridectomy may close the ante-operative drainage, and not procure a post-operative one. Hence, the prognosis of iridectomy in inflammatory glaucoma of all types is good, and usually its good results are permanent. It is therefore unconditionally recommended. But in the non-inflammatory

types, only the maintenance of the present condition can be expected. And one must inform the patient that even this cannot at all times be secured. However, even in these cases, the operation should be done as soon as an increase in tension can be distinctly made out. Notwithstanding that the result is not as good as in the inflammatory type, it still offers the best results of any known treatment.

There is a type of simple glaucoma, however, without inflammatory symptoms, and with but slight, if any, increase in tension, in which iridectomy is of no avail; and it has seemed to be, even to do harm in some instances. These cases are what has been termed "posterior glaucoma." These cases are dependent upon a heightened arterial tension, or arterial sclerosis, or both. Immediately upon their recognition, these cases should be sent to the internist for a careful examination. Then the ophthalmologist and internist, working together, keep up the treatment, which is largely hygienic, with some drugs if they appear to be indicated, notably the iodides and nitrites. However, most of these cases do badly under any treatment, and a bad prognosis, or at best an extremely guarded one, should be given in all cases.

In acute glaucoma I have found it most satisfactory to have a hypodermic of morphine and hyoscyamin, to give a few whiffs of chloroform or ether (which ever the anesthetist decides is best indicated for this case). I also use cocaine, and the operation is proceeded with as though under local anesthesia, which, however, can seldom be used alone because the extreme tension under which the eyeball is, prevents the absorption of the cocaine.

First, in many cases, I have found it advantageous to do a posterior sclerotomy. Waiting a few minutes, the section is made with a Graefe knife, along the lines indicated by my diagrams. This is essential, as a study of the anatomical conditions shows that a section entirely within the cornea will not allow of the desired effect. For this reason, personally, I do not use a keratome, and I am delighted to see that Dr. Weeks supports me in this contention, by stating that he can get closer to the filtration angle with his Graefe knife than with the above mentioned instrument. The secret of a successful iridectomy lies in making sections which expose the deeper pocket of the anterior chamber. And it is my custom to introduce the iris forceps, pulling the iris to one side, to make a cut with the scissors, to tear

loose the periphery, and to make another cut, giving the keyhole effect with a broad base.

Unfortunately, the iris is frequently friable, and it is impossible to do an ideal operation with it, and unless one follows closely on the above lines, the chances of securing this effect are lessened. I have never seen bad effects from attempted section in an eye with increased tension.

I prefer to do this operation in bed, that the patient may be handled as little as possible. And have found that the fumes of vinegar, given by inhalation, at frequent intervals, are grateful to the patient recovering from ether anaesthesia, especially. It is frequently possible in the less acute types of glaucoma, to so reduce the tension by myotics, that a successful operation can be done in the interval under local anaesthesia, and with the best results. But I have never hesitated to operate in the most acute cases, and always with satisfactory results.

I am firmly convinced that all cases of glaucoma with increased tension should be operated upon and a broad based iridectomy done. I could cite many cases to prove this contention, but believe this to be the consensus of opinion. I will admit, however, that there are a certain number of cases with a questionable increase in tension, hardly distinguishable from the scleral toughness of age, and without the cardinal symptoms of glaucoma, in which I am not convinced that an operation is best, as these patients are ones in which the senile changes are quite marked, and they should be placed under the care of a skillful internist, under the most favorable surroundings.

Original paper read before Academy of Medicine, Toledo, Ohio, October 29, 1909.

The Eye, Ear, Nose and Throat Section of the Academy of Medicine of Toledo and Lucas County met October 29. E. H. Porter, of Tiffin, read a paper on "The Pathogenesis of Glaucoma." Charles Lukens read a paper entitled "The Diagnosis and Non-Surgical Treatment of Acute and Chronic Glaucoma." He said: The diagnosis of acute glaucoma may be made by any general practitioner and it is important that he do so, for he usually sees the patient first. The disease attacks people of advanced life, and may follow exposure to cold, improprieties of eating, mental emotion, etc. The onset is usually sudden at night, awaken-

ing patient with a violent neuralgic pain in the eye, radiating into face and head along the course of the first and second divisions of the trifacial nerve. Pain may be mistaken for neuralgia, and the eye symptoms thought to be due to it. The eyeball is red and the lids are usually swollen. This description also covers iritis, but here the diagnosis is sharply cut, the tension of the eyeball is hard in glaucoma and normal in iritis. The pupil is dilated in glaucoma and contracted in iritis. The cornea in glaucoma will present a steamed glass appearance within a few hours after the onset of the disease and vision will be greatly reduced, the cornea in iritis may be steamy, but usually after several days, and impairment of vision is not so marked at first. The anterior chamber is shallow in glaucoma and of normal depth in iritis. The cornea is anaesthetic in glaucoma and acutely sensitive in iritis.

Chronic glaucoma is diagnosticated mainly by the use of the ophthalmoscope, the refractive media of the eye are clearer, but the optic disc shows the "glaucoma cupping", of varying degree dependent upon the stage of the disease. The eyeball is not much harder than normal. The perimeter shows an early cutting of fields for form, beginning on the nasal side. This is the disease in which refracting opticians, optometrists, etc. do as much harm by their ignorance in not recognizing the nature of the difficulty. It is frequently confounded by the layman with cataract, with disastrous results. An eye blind from chronic glaucoma is blind forever, an eye blind by ripening of cataract is in condition to have sight restored by an operation.

The non-operative treatment of acute glaucoma is palliative only and must never take the place of an operation, except in rare conditions where the eyeball may not safely be opened immediately; e. g., infection, pus in tear-sac, etc. The non-operative treatment consists of bed, purgation and salicylates, hot stoupes to the eye, eserine solution every three hours, massage of eyeball with the finger tips and dionin powder and cocaine solution locally.

In chronic glaucoma, the non-operative treatment is usually best, and consists of ocular hygiene, careful refraction and limited use of eyes. The secretions of the body should be kept active, the diet should be regulated to favor most perfect metabolism possible, avoid "uric acid diathesis." The anti-rheumatic group of drugs per ore are valuable. Locally a very weak solution of an eserine salt, instilled into

each eye two or three times daily and kept up for years will give best results. Dionin locally is a valuable aid whenever tension is found to be elevated, and massage with finger tips is useful in the same condition.

The regular meeting of the Fulton County Medical Society was held at Delta, Ohio, November 3. The following program was presented:

"A Visit to the Mayos", Edwin A. Murbach, Archbold; discussion.

"Acute Nephritis", Lewis A. Levison, Toledo; discussion opened by P. S. Bishop, Delta.

"Headache: Ocular, Nasal and Sinus", Clair S. Campbell, Wauseon; discussion opened by Thomas Blair, Lyons.

The Allen County Medical Society met October 5. T. R. Thomas read a paper entitled "The Diagnosis of Surgical Diseases of the Upper Abdomen." Many technical points in diagnosis were made by the essayist. The discussion was opened by William Roush and followed by others.

At the meeting of October 19 L. F. Laudick read a paper entitled "The Use and the Abuse of the Curett." Dr. Creps opened the discussion. Dr. Rosenthal, of Ft. Wayne, Ind., addressed the society, discussing the following: (1) Operation for the removal of the thyroid gland; (2) extirpation of the tongue for carcinoma; (3) removal of a large portion of the lower lip for the removal of epithelioma; (4) also, excision of a portion of the rectum for carcinoma.

The address was very interesting and heartily enjoyed by all present. A vote of thanks was tendered Dr. Rosenthal.

At the meeting of November 2, headaches were the symposium. "Headaches of Nasal Origin", A. F. Kinsley; "Ocular Headaches", W. B. Van Note; "Headaches of Nervous Origin", A. H. Creps; "Systemic Headaches", G. S. Weger.

All the aforesaid topics were presented in an interesting and an admirable way. The discussion was opened by Drs. Bice, followed by Drs. Leatherman, Steuber, and closed by the essayists.

On November 16, P. I. Tussing gave a paper entitled "Serum Treatment of Gonorrheal Af-

flictions." The subject was very well presented, and the discussion was opened by Dr. Thomas.

FIFTH DISTRICT

H. G. SLOAN, M. D., Collaborator.

At the meeting of the Clinical and Pathological Section of the Academy of Medicine, Cleveland, November 5, C. C. Hamann read a paper on "Inflammation and Suppuration of the Omentum." In looking over the literature he found that there were only about sixty cases reported. The condition arises when the omentum has been handled either in tying off the mass in a hernia sack, or where there is an inflamed condition in the abdomen, necessitating removal of part of the omentum. These cases arise where part of the omentum has been tied off. The clinical picture is as follows:

One to two weeks after operation there is a tender swelling in the abdomen, with fever. Prognosis is good, as resolution generally takes place; in only one case out of the three, which Dr. Hamann reports, was it necessary to open the abdomen and evacuate the pus.

A. H. Bill read a paper on "Placenta Praevia." He showed by numerous statistics that the mortality both to mother and child in all insertions of placenta praevia was higher, if the case were treated in the old way of packing or drawing down a foot, than by treating by Caesarian section. He made a strong appeal for performing more numerous Caesarian sections in these cases.

E. O. Houck read a paper on the "Treatment of Labor in Contracted Pelvis." He advised waiting in all cases of contracted pelvis above the absolute limit, finding that spontaneous labor occurred in 75 per cent. of the cases. He urged that nothing be done until it was clearly demonstrated that birth could not take place normally.

G. W. Crile read a paper on "The Technic of Caesarian Section." Dr. Crile stated that the mortality with Caesarian section, as done in the modern hospitals today, ought not to exceed that of any other major abdominal operation.

The only point in technic which was emphasized, was to deliver the child by running the hand well down under the head, and scooping it out of the uterus with one movement, so that the child might not aspirate amniotic fluid

by the straightening of the body in case it was delivered by seizing the leg. In case the woman is infected, he advised immediate hysterectomy.

Abstract of E. O. Houck's paper read before the Clinical and Pathological Section of the Cleveland Academy of Medicine, on the "Treatment of Labor in Contracted Pelvis." His paper was based upon the experience of Prof. Schauta's clinic in Vienna, as published by Burger in his monograph on "Labor and Contracted Pelvis." As far as the classification of contracted pelvis is concerned Dr. Houck followed the rules laid down by Baisch who classifies contracted pelvis into four grades, each grade representing a difference of one centimeter regardless of whether the pelvis was a flat or generally contracted pelvis. It was formerly the general opinion that flat pelvis offered less resistance to spontaneous labor than a generally contracted pelvis, but Baisch has demonstrated this, however, to be erroneous. It is only when the question of operative interference arises is a determination of whether a pelvis is flat or generally contracted of importance. Dr. Houck based his plea for the expectant method of treatment of contracted pelvis upon the fact that 78 per cent. of labor in cases of contracted pelvis would terminate spontaneously. It is only when the true conjugate is below 8.5 centimeters would much difficulty be encountered. The number of spontaneous births markedly diminish below this degree of pelvic contracture.

Dr. Houck divided the methods of treatment of contracted pelvis. A. Indicated measures. B. Prophylactic measures. C. Strictly surgical operations. The indicated measures are those which are employed because of some malpresentation such as a version for a transverse position, or for prolapsed cord, also the application of forceps with the head in the pelvis, craniotomy on a dead child.

The prophylactic measure Dr. Houck discussed induction of premature labor and advised that this procedure should be greatly restricted and that labor should be induced in contracted pelvis only in multipara with vertex presentations with a pelvic contracture between 7.5 centimeters and 8.5 centimeters, between 35-38 week. Prophylactic version should also rarely be employed because of the attending high foetal mortality. It should only be employed in multipara with flat pelvis, and a

true conjugate below 8 centimeters. It should not be performed if the head is too large. The necessary requirements must be present before version is attempted. The application of high forceps is another measure which should be seldom employed in the treatment of contracted pelvis because of the attending high foetal mortality and injury to the mother. Their use should be restricted to several well directed efforts at extraction and if unsuccessful Hebosteotomy should be performed.

High forceps are not designed to overcome any great degree of pelvic contracture. Of the surgical operations Caesarean section should be employed for absolute indication below 5.5 centimeters, and relative indication up to 7 centimeters if the uterus is uninfected. Hebosteotomy may be performed when the pelvis is contracted up to 7 centimeters, but should not be performed when the contracture is less than 7 centimeters because of difficulty of extraction. Hebosteotomy has the advantage that it may be performed if the patient has been submitted to the test of labor; indeed, it may be performed before the second stage of labor has begun if we are reasonably sure that spontaneous labor cannot take place and the head has failed to engage at the brim. Dr. Houck advises that the best results can be obtained in cases of contracted pelvis by the expectant method of treatment.

A symposium on insanity in the medico-legal sense was held before the Medico-Legal Section of the Cleveland Academy of Medicine, with the following papers:

I. "Tests of Insanity in the Civil Court", by Walter B. Laffer, Cleveland.

The writer called attention to the fact that as alienists we do not recognize that a man may be insane for this act or function in life, and sane for another act taking place at practically the same time, except in cases of psychic epilepsy, fugues and such conditions. That this is the legal position as in law a man may be too mentally defective to make a will and yet sane for marriage or other contract, and vice versa.

The question of sanity in the civil court largely concerns, first, validity of wills; second, the responsibility of a party to any contract including marriage, and the suicidal clause in

insurance policies; third, in the question of torts, and fourth, in habeas corpus proceedings to release an individual held by the state to be insane; fifth, action for damages where insanity is the result of the injury.

The writer then went into details regarding the physical and mental tests of insanity.

He called attention to the fact that the criterion of insanity in the civil court varies from that in the probate and criminal court, and that in the various actions in the civil court the law recognizes various degrees of mental derangement and responsibility that are hardly scientific from an alienist's viewpoint. Yet the physician is usually called upon to investigate the responsibility of an individual with the legal restrictions according to the action in question.

He then defines the legal restrictions that an expert must conform to in the various actions in the civil court where the question of insanity might be raised.

The paper ended with a recommendation that we institute, in addition to the ordinary jury, a second so-called technical jury, composed exclusively of medical men trained in the new psychophysiological school, to judge of the quality and degree of psychism the responsibility, and to make a choice of punishment; while the duration of the punishment would be left in the hands of the court.

II. "Tests of Insanity in Civil Courts," by Benjamin A. Gage, LL. B.

The speaker divided his subject into the four following heads:

1. How is insanity involved in civil courts?
2. Method of determining.
3. Tests in various cases.
4. Suggestions.

Under the first heading he considered the various cases in which the question of insanity might arise and classified them as follows:

- (a) Cases involving contracts.
- (b) Cases involving torts.
- (c) Cases involving wills.
- (d) Habeas corpus proceedings.

1. How is insanity involved in civil courts?
(a) Cases involving contracts.

Under this heading he included all cases involving deeds, leases, conveyances, sales, partnership agreements, contracts of marriage, bills and notes, and in fact all agreements to do or not to do specific things.

Hence, if either party at the time the agreement was entered into was of unsound mind or insane in a degree recognized by the law, such insanity may constitute the foundation of an action by that party for affirmative relief, such as rescission or annulment of the agreement; or it may serve as a defense against its enforcement, subject to various rules of law, which it is needless to discuss here. He gave as an illustration the severing of the marriage contract. Insanity at the time of marriage or occurring subsequently thereto is not enumerated in our statutes as a ground of divorce, yet courts will annul a marriage one party to which was insane at the time it was contracted, if such insanity at that time is established by proper and satisfactory evidence, on the theory that no intelligent and voluntary assent to the contract was given.

1. (b) Cases involving torts.

He explained the complex meaning of this term and continued: Slander, libel, assault, false imprisonment, trespass upon property and conversion of the property of others, are all torts. Difficulty in comprehending the precise nature of a tort is enhanced because of the fact that a tort may also be a breach of contract or a crime. Murder and theft are torts and also crimes, because they are offences against the laws of the state, and yet in the civil courts the criminal aspect of the acts claimed to be tortious is not given consideration.

The authorities have divided all torts into three general classes, viz.:

(1) Acts which are unlawful regardless of the intent with which they are committed.

(2) Acts lawful in themselves becoming tortious or wrongful only when accomplished by wrongful means or accompanied by evil intent or malice.

(3) Acts constituting negligence, which may be defined broadly to be the failure to do those things required of an ordinarily intelligent person under similar circumstances. Such acts may be of commission or omission.

It is extremely important to keep this classification of tortious acts in mind, as for all torts which do not involve intent or wrongful means or malice as an ingredient an insane person is responsible in damages in a civil action to the same extent as one of perfectly sound mind.

To illustrate: If a lunatic destroys property, he is responsible in damages for the value thereof, regardless of the fact that he was not capable of having any evil intent, and his insanity would be

no defense. If he were prosecuted criminally, however, for malicious destruction of property, malicious intent would be a necessary ingredient of the offense, and his insanity would be a complete defense thereto. It follows that for those torts in which malice or wrongful intent is a specific ingredient there is no civil responsibility upon a person insane at the time of their commission.

1. (c) Cases involving wills.

The statutes of Ohio provide that persons "of sound mind and memory" and under no restraint may make testamentary disposition of their property, and contain requirements concerning the formal execution of a will.

Frequent application is made to the civil courts to set aside the will of an individual, for the reason that the testator was insane at the time of its execution, and this fact, once established, constitutes a valid ground for its annulment as a testamentary disposition. More frequently, however, weakness of mind, falling short of insanity, old age and susceptibility to influence unduly persistent in its character, are relied upon by the complainant for the purpose of avoiding the legal effect of the document.

1. (d) Habeas corpus proceedings.

A proceeding in habeas corpus involves the issuing of a writ "directed to a person detaining another, commanding him to produce the body" of the latter upon the date and at the place named, to the end that an examination into the cause and propriety of his detention may be had. This method is frequently invoked to secure the release of one theretofore committed to an asylum or other institution as an insane person. At the time of the hearing of the writ the important point for determination is the present state of mind of the detained person, the object being to determine whether or not his mental condition is such that for the good of the public he should be further restrained or should be allowed his liberty.

2. Method of determining.

In the cases enumerated the method of procedure is, of course, to introduce proper and competent evidence tending to establish the sane or insane condition of the mind of the party under examination, and this evidence is considered by court alone, or by court and jury, as the nature of the case decrees. For example, an action to set aside a will is triable before a court and jury under the provision of a statute of the state, and if in the opinion of the court there is sufficient

evidence of the insanity of the testator, the matter is submitted to the jury for its determination.

Again, an action seeking the rescission or cancellation of a contract upon the ground that at the time of its execution the complainant was insane, being an application to the court for the exercise of its equity powers, is heard and determined by the court alone. The evidence of insanity so submitted, of course, assumes every conceivable phase and form and includes testimony concerning the words and conduct of every description of the person whose sanity is questioned. In this field medical experts are supremely useful, and they are employed for the purpose of giving their opinions as evidence to aid the court or jury.

3. Tests in various cases.

It is not possible to set forth the varying expressions employed by courts in laying down rules for the determination of sanity in each of the various cases which have been considered. It has been held, however, that when the validity of a conveyance has been attacked, the grantor is usually held sane for the purpose of making such conveyance "if he has sufficient capacity fully to comprehend the nature and effect of his act."

It is also held that "either the absence of intellect or a great mental aberration is sufficient to render a contract void." When unsoundness of mind is relied upon as a defense to an action upon a contract or as a basis of relief upon it, that unsoundness or insanity must be proven to be of such character as that the person had no reasonable perception or understanding of the nature and terms of the agreement.

Mere weakness of mind alone is not insanity, and the courts will not undertake to interfere in every case in which a superior or more astute intellect has obtained an advantage over a more feeble mind.

On the other hand, it has been asserted that a testator's mental condition may fall short of that degree of mental derangement generally known as insanity or idiocy, and yet be such to incapacitate him in law for the execution of a valid will.

4. Suggestions.

It is apparent that in all of the cases enumerated either the court or jury eventually determine the question of sanity.

Unfortunately, our system is such that aspirants to the bench are not always lawyers of great education and training, and it is common knowledge that, in our cities at least, juries are not drawn

from the more intelligent classes. It is not usual that either the court or jury has any considerable range of medical knowledge, and it seems a travesty upon justice to refer to them for final decision a question of such vital importance as the sanity of an individual. They can only weigh conflicting evidence and from it determine probabilities. It is the judgment of the writer that the question of sanity or insanity is, in its last analysis, a medical one, involving in its solution the consideration of innumerable matters, psychological and physiological, and the accurate and precise conclusions which true justice requires can only be reached by physicians of the widest learning and the broadest experience.

Numerous obstacles would undoubtedly be encountered in any endeavor to change present practices, and yet it is suggested that in some proper way it be made possible for the Common Pleas Court in each county of the state to appoint a commission of perhaps three learned and competent physicians to determine the sanity of any person whose state of mind is questioned, such commission to have such powers as would make its existence and findings effective.

It is suggested further that it is within the province, purpose and power of this section to be the foreleader in accomplishing that end.

III. "Tests of Insanity in the Criminal Court," by A. B. Howard.

The essayist spoke in part as follows:

The test of insanity in the criminal court resolves itself into one term, that of responsibility. To determine the responsibility of the individual one must ascertain the character of his mind. We also taught that the processes of the mind are feeling, thinking, willing and acting. That perception is one of the faculties of mind, and erroneous perceptions constitute what are known as illusions and hallucinations. We have hallucinations of all the special senses—of hearing, seeing, tasting and smelling, and when these are present in any order they constitute one of the main symptoms of insanity. That which holds good in the case of auditory hallucinations can also be applied to hallucinations of smell.

The most frequent hallucinations of sight are those which occur most particularly at night—the so-called visions, God, angels, dead persons, distorted figures. The patient sees all sorts of animals about him, rats and serpents crawling over his bed, insects upon their food and clothing; at times they will see crowds pursuing them, faces making grimaces at the window. Frequently they

mistake strangers for relatives. Especially do these conditions arise in the alcoholic psychosis.

But the most important functions of the intellect are those of reasoning and judgment, and when these functions are disordered by clouding of consciousness, emotional states, mental weakness and the inability of the individual to properly appreciate his environment and the data furnished by his environment delusional states develop.

Delusions entertained by the insane are variously classified as systematized or unsystematized, depressive or exalted.

Among the depressive delusions, self accusations are most frequent. The patient manifests a feeling of unworthiness; he reviews his past life as one of sin and disgrace; even God has forsaken him, and he is left to be punished in some horrible manner.

Related to these delusions are fears of poverty, loss of home or property or the fear of some impending danger to self or relatives.

When delusions of jealousy exist, feelings of doubt and suspicion may arise. All assertions of love and friendship are disbelieved, and he suspects all of plotting against him.

The expansive or exalted types differ materially from the depressive inasmuch as the patient exhibits a sense of well being. The external relations of the patients, the social position and property are transformed by delusions of grandeur.

Not infrequently do these people contract debts buying expensive articles and offering worthless checks in payment, or they dispose of their property at a sacrifice, thus embarrassing their business and relatives.

The examples of the delusions as above related show very clearly that when delusions are present in an individual the reasoning and judgment is greatly disturbed; therefore false beliefs or delusions constitute one of the most important medico-legal tests in insanity.

The emotional states and feelings of an individual are direct indications of his attitude toward his perceptions of the external world, and disturbances of the emotional life often form the first striking symptoms of insanity. Persistent morbid emotions, such as sadness, painful thoughts, fears, distrust and frequently delusions of persecution and self accusation are significant.

Fear is by far the most important morbid emotion and varies from lighter grades, such as timidity and cowardice, to obsessional ideas.

Obsessions are disturbances of the will char-

acterized by morbid fears or morbid ideas. The obsessive ideas especially is an important factor in the determination of responsibility, for as a rule such ideas are serious and really the only unreasoning thing about them is their persistence. In fact, they often dominate the individual, and it is not infrequent that people suffering from obsessions ask to be restrained or confined to prevent them from doing some terrible act that they feel they cannot resist.

There is a disease which is of much importance both to the medical and legal profession, known as epilepsy. An epileptic during the interval between his seizures is as a rule regarded as sane, but there are times just before the paroxysm, during the paroxysm or immediately following it when the individual is in such a peculiar state of mind that he would be regarded as insane or irresponsible for acts committed during this period of temporary aberration. Occasionally the epileptic seizure does not occur, but rather what is designated as an epileptic equivalent. By this is meant a period of apparent unconsciousness, in which the individual may perform automatic acts or have violent maniacal outbreaks and commit crimes of which he has no knowledge when the condition subsides.

In all epileptic convulsions there is a complete loss of consciousness, the patient having no memory whatever of any occurrence which might have taken place during the seizure, and frequently there is an absence of memory for several hours after the attack.

In some cases an epileptic seizure is followed by a peculiar state of mind lasting from a few hours to several days, in which there is more or less clouding of consciousness, and the acts performed during this time are in the nature of automatic acts of which the patient has no memory when he again returns to his normal status. Therefore it is the accepted opinion that any act whether it is criminal or not committed by an epileptic patient during the periods that are mentioned, he is wholly irresponsible for.

True it is that there are persons who exhibit a peculiar mental condition all through life whom it might be difficult to class as insane or irresponsible, but who from their eccentric or perverted characteristics, weak or moral delinquency, demand consideration and their actions investigated.

It is in such cases that a partial or attenuated responsibility exists.

In consideration of the facts that are advanced in all such cases and notwithstanding the oppor-

tunity afforded the legal profession to propound hypothetical questions, it would appear that the physician in making his examination has only the medical points in the case to consider; that is to say, he has nothing whatever to do with the outside circumstances surrounding the act. He has only to determine the conditions of the brain cells, so that it matters not what the cause may be, whether it is due to influences of heredity, to traumatism, syphilitic or alcoholic poisons, epilepsy, dissipation, excesses, tumors or any other known cause, the question is: Are the brain cells performing their functions?

"An individual whose psychic neurons are normal is a responsible being," says Grassit, "and that consists in responding as other men do to the influence of ordinary motives of everyday life which rule conduct and human action. If the psychic neurons are wholly diseased and abnormal, then the individual is irresponsible."

IV. "Tests of Insanity in the Probate Court," by Frank Higley.

The essayist spoke in part as follows:

In England, from a very early period, the king was considered to assume the care of insane persons and their property and to delegate his care to the lord chancellor, who exercised his jurisdiction not by virtue of his judicial office, but as the direct delegate and representative of the crown, deriving his authority from royal warrant under the sign manual of the sovereign delivered to him upon his coming into office.

In the exercise of this jurisdiction thus delegated to him the lord chancellor appointed guardians for insane persons, made inquests as to insanity and assumed general jurisdiction over the custody and control of insane persons and their estates.

In the State of Ohio the Probate Court by statute is vested with substantially the same jurisdiction as to insane persons, and is also given jurisdiction to probate wills. It becomes necessary to apply tests as to insanity in three different proceedings in the Probate Court.

First.—In the probate of wills.

Second.—In the appointment of guardians for insane persons.

Third.—In making inquests as to insanity.

In each of these proceedings the Probate Court applies a different test in the determination as to the sanity or insanity of the person whose mental condition is the subject of the inquiry.

Section 5914 of the Revised Statutes of Ohio authorizes the Probate Court to admit a will to

probate "if it shall appear that such will was duly attested and executed and that the testator at the time of executing the same was of full age and of sound mind and memory and not under any restraint."

In the proceeding to probate a will, persons interested to resist the probate of the will are not allowed to introduce evidence to contest its validity.

The Probate Court in this proceeding presumes the testator to have been sane until it affirmatively appears otherwise; and, unless it clearly appears from the will or from the testimony of the witnesses to the will that the testator was insane, the will, if in legal form, is admitted to probate by the court, and the questions of mental capacity of the testator and undue influence are left for a trial by jury in the Common Pleas Court if the will is contested.

The statutes of Ohio also authorize the Probate Court upon satisfactory proof that any person a resident of the county is an "idiot, imbecile or a lunatic," to appoint a guardian of the person or estate, or both, of such person.

In determining whether a guardian shall be appointed over such insane person the Probate Court is not alone concerned with whether such person is insane within the medical meaning of insanity, but also considers whether the mental condition of such person is such that it is necessary or desirable for the benefit of such person or the protection of his property that a guardian should be appointed.

The rule which is applied in the appointment of a guardian is stated in a legal textbook as follows:

"Generally speaking, the test of whether a guardian should be appointed for the estate of a person is whether mental unsoundness exists to such a degree that he is incapable of conducting the ordinary affairs of life, so that to leave his property in his possession and control would render him liable to become the victim of his own folly or of the fraud of others."—22 Cyc., 1139.

Perhaps the rule which governs the Probate Court in appointing guardians can be better shown by a reference to a few decisions of the Probate Court reported in Ohio than by any statement of the rule.

In one case it was held that "Weakness and infirmity, coupled with old age and easy susceptibility to influence, which would authorize the setting aside of a will, would not amount to such mental unsoundness as to warrant the appoint-

ment of a guardian, and that the mind of the person must be so unsound that he cannot apply his faculties to the management of his affairs or the government of himself, to warrant the appointment of a guardian. (In the matter of Tempest, Goebel, 200, 208.)

In another reported case it was held that "the fact that his memory is greatly impaired and that a person is less careful of his property than formerly or is subject to the influence of extravagant children and is wasting his property, will not justify the appointment of a guardian. It must appear that the mind of such person is so unsound that he cannot apply his faculties to the management of his affairs or the government of himself." (In re Shelleig, 8 N. P., 399.)

In another reported case, where it appeared that a woman seventy-seven years of age administered to her own support, provided her own table, made her own purchases, even to laying in her own coal, and lived in her own rooms, keeping her own house and going about the streets and calling upon her friends without assistance and conversing with them intelligently, it was held that the mere fact that she showed some of the infirmities of age, such as forgetfulness and unusual susceptibility to the influence of her children, or peculiar conduct, such as greeting acquaintances on the street in an extremely friendly and caressing manner, were not sufficient to authorize the appointment of a guardian.

On the other hand, the Probate Court has in many instances appointed a guardian upon the ground of mental infirmity of the subject of such guardianship, where such ward was not a proper subject for confinement in the State Hospital for the Insane.

There are many insane persons who are not necessarily dangerous to themselves or the community, and it would be wrong to deprive them of their liberty or control of their property because of their mental unsoundness until it was first shown that some form of guardianship was necessary for their well being. It is apparent that in an individual pursuing a mechanical vocation mental unsoundness to even a very considerable degree might not impair his usefulness, and yet that in a professional man like a judge, lawyer or a physician the least mental derangement might jeopardize the entire value of his personal services and require also from the more enlarged character of his possessions that he should have a guardian.

The necessity for thus differentiating between

persons of mental unsoundness according to the extent of power present in them for self guidance or the care of property presents one of the most delicate and difficult problems with which the Probate Court has to deal.

Article VII, Section 1, of the Constitution of Ohio provides that "Institutions for the benefit of the insane and blind and deaf and dumb shall always be supported by the state and be subject to such regulations as may be prescribed by the General Assembly."

In pursuance of this constitutional provision the state has established institutions for the care and treatment of the insane and has vested in the Probate Court of the several counties of the state jurisdiction to commit persons to such institutions.

In order to obtain the admission of an insane person to such institution there must be filed in the Probate Court an affidavit stating in substance that the affiant believes such person is insane or that by reason of his insanity his being at large is dangerous to the community. Upon the filing of such affidavit a warrant is issued by the probate judge requiring such person to appear before the judge, and a hearing before the probate judge is had, and if upon hearing of the testimony the judge is satisfied the person who is charged is insane, the judge causes a certificate to be made out by two medical witnesses in attendance, who must have had five years of experience in the practice of medicine. These witnesses are required to answer certain interrogatories relative to the mental condition of such person, the form of which are prescribed by the Board of State Charities.

By Section 720 of the Revised Statutes of Ohio it is provided that the term "insane" as used in the statutes relative to the admission of insane persons to the state institutions for the insane shall include "every species of insanity or mental derangement."

Although the statute contains this very comprehensive definition of insanity, the Probate Court will not necessarily commit a person to the hospital for insane on mere showing that he is insane in the medical sense of insanity.

It may be stated as a general rule that no person will be committed by a court to a hospital for the insane in Ohio or any other state of the United States unless it appears that the welfare of the patient or that of the community requires such restraint.

In determining whether a person shall be sent to the hospital for the insane the Probate Court will inquire—

First.—Whether such person has any form of mental derangement.

Second.—Whether his condition is such that it would be for the best interest of such person or the interests of others that he be sent to such hospital.

Even after the Probate Court upon inquest has found that an insane person should be admitted to a state hospital for the insane, the relatives of such person can prevent the commitment of such person to the hospital for the insane.

Section 705 of the Revised Statutes of Ohio provides that "the relatives of any person charged with insanity or who is found insane shall in all cases have the right to take charge of and keep such insane person charged with insanity, if they desire to do so; and in such case the probate judge before whom the inquest has been held shall deliver such insane person to them."

It is apparent from a consideration of the tests of insanity applied by the Probate Court in its exercise of jurisdiction that a person may be insane according to medical science and yet be capable of making a will and possessing such mental capacity that the court would not be justified in appointing a guardian for him or sending him to a hospital for the insane.

Perhaps the distinction between medical insanity and insanity from the standpoint of the law is no more clearly stated than in Bouvier's Law Dictionary in the following language:

"The legal and medical ideas of insanity are essentially different, and the difference is one of substance. The failure to keep it in mind has been the fruitful cause of confusion in trials involving the question of mental capacity for crime or contract and has tended to render valueless and often absurd the testimony of witnesses called as experts. Many of these have testified without any conception of the real nature and definition of the insanity which alone would have relation to the case."

"Insanity in medicine has to do with prolonged departure of the individual from his natural mental state arising from bodily disease. Insanity in law covers nothing more than the relation of the person and the particular act which is the subject of judicial investigation. The legal problem must resolve itself into the inquiry whether there was mental capacity and moral freedom to do or abstain from doing the particular act."—Bouvier's Law Dictionary, page 1050.)

It follows from what has been said that there can be no general definition of legal insanity and that it is merely a state or condition which must

be noted with reference to each class of actions to which it is applied.

The regular meeting of the Huron County Medical Society was held at Norwalk November 11. The following papers were read: "Serum Diagnosis and Treatment of Disease," R. L. Morse; "Diagnosis of Surgical Diseases of the Abdomen," F. M. Kent.

The Ashtabula County Medical Society held its forty-seventh regular meeting Tuesday evening, November 2, in the Business College, corner Main and Spring streets. Secord H. Large, of Cleveland, read a paper on "Diseases of the Nose and Accessory Sinuses." The lecture was illustrated with a stereopticon. Clinical cases were reported, and a general discussion followed.

At the meeting of the Academy of Medicine of Cleveland October 13, Henry O. Feiss read a paper on "The Essentials in the Treatment of 'Non-Ambulatory' Cripples Deformed by Infantile Paralysis." The paper had to do with patients who had become so deformed by infantile paralysis that they were unable to stand or walk, and the author's object was to show how they were placed upon their feet. The chief cause of the condition was the fact that after the original paralysis recovery was permitted to take place without any regard to the contraction of the good muscles. The result was that certain joints contracted, and even if there was sufficient power left in the muscles about the joints to permit stability the permanent position of deformity prevented them from being placed in positions where power could be properly applied. In cases where there were no contractures, the "non-ambulatory" condition was due to failure to use proper mechanical measures. Of course, some of the cases were hopeless.

The treatment consisted in straightening out every deformity in the ankle, knee and hip by gradual correction where it could be applied; or, if necessary, by forcible manipulation under ether, or finally by cutting operations where force alone is not sufficient.

Assuming that the patient had been straightened out, the next stage in the treatment was to attempt to get him upon his feet. The simplest form of apparatus was used. Such apparatus in-

sured stability of the whole leg up to the hip. Crutches were used in addition. Later on the crutches and apparatus were gradually left off if possible. When a patient reached a phase where no further improvement was gained by any of these methods, then plastic operations on the muscles and joints were considered, with the hope of eventually discarding such apparatus as was left. The choice of operation here depended entirely on the conditions in the individual case.

The main object of the paper was to show how these patients were placed upon their feet.

Nine cases are mentioned in the report. All of these were helpless when first seen and crept about the floor. All of them were eventually enabled to walk, some with crutches, some with braces and some with but one brace.

The sixty-third regular monthly meeting of the Lake County Medical Society was held at the Cowles House, Painesville, Monday evening, November 1. The program was as follows: Presentation of cases; paper by Henry L. Sanford, of Cleveland, on "The Significance of Chronic Gonorrheal Prostatitis to the General Practitioner"; discussion.

SIXTH DISTRICT

A. J. MARCH, M. D., Collaborator.

The Union Medical Association of the Sixth District held a very successful meeting at Millersburg Tuesday, November 9. A local committee met the visiting members and guests at the station with automobiles and drove them around the town before the meeting. At 1 p. m. the association was called to order by the president, S. F. Wise, of Millersburg, and the following program was presented: "The Treatment of Pulmonary Tuberculosis," John P. DeWitt, Canton; "Internal Derangement of the Kneejoint," M. L. Hunt, Akron; "An Investigation of the Cerebro-Spinal Fluids of Certain Insanities," Jno. D. O'Brien, Massillon, Ohio State Hospital; "Indications for Operation in Fractures at the Base of the Skull," Frank Bunts, Cleveland; "Gallstones," W. D. Hamilton, Columbus; "The Relation of the District Society to the State Association," J. H. J. Upham, Columbus, Secretary Ohio State Medical Association; symposium, "Puerperal Infection," W. H. Humiston, Cleveland.

The papers aroused general interest. Among those taking part in the discussions were A. T.

Cole, Millersburg; George Zinninger, Canton; J. H. J. Upham, Columbus; A. B. Walker, Canton, and D. W. Shumaker, Canal Dover.

SEVENTH DISTRICT

S. O. BARKHURST, M. D., Collaborator.

The Jefferson County Medical Society met on Tuesday, November 9, with the following program: Clinical cases, by the society; reports of clinical cases, by the society; paper, "Treatment of Specific Urethritis, J. C. M. Floyd; Round Table on Ophthalmia Neonatorum.

TENTH DISTRICT

FRED FLETCHER, M. D., Collaborator.

The Union County Medical Society met Tuesday, November 2. The program was as follows: Paper by W. H. Wills, Milford Center; "Hematuria", S. J. Brown, Richwood; "Treatment of Fractures, with Special Reference to the General Practitioner", T. C. Hoover, Columbus.

On November 15, a paper was given on "The Importance of Dento-Facial Orthopedia to the Physician", by L. P. Bethel; discussion, Drs. Brown, Stillman and Rogers.

"The Perineum, Its Preservation and Repair", by S. J. Goodman; discussion, Drs. Inglis, H. A. Baldwin and Waters.

L. T. Le Wald presented a male patient, aged thirty, who had a so-called grooved or lobulated tongue.

S. J. Goodman related the history of a child upon whom he had recently operated for appendicitis as showing the difficulty occasionally encountered in differentiating appendicitis from hip trauma or the early stage of a true coxitis.

The Pickaway County Medical Society met Friday evening, November 5. The program was as follows: "The History of Appendicitis", D. V. Courtright; "The Symptomology and Differential Diagnosis of Appendicitis", G. H. Colville. Fred Fletcher, Columbus, was a guest of the society and read a paper on "The Mortality of Appendicitis in Childhood." A social session followed, at which time there was a general discussion of the papers.

At the regular meeting of the Columbus Academy of Medicine, November 1, a paper on "Studies on the Clinical Diagnosis of General Paralysis of the Insane" was read by Eugene F. McCampbell; discussion by Drs. Rowland, Gaver, Harding and Baldwin.

L. T. Le Wald reported an acute case of Addison's disease, the symptoms of which were in keeping with the acute forms of the malady described by Addison. The patient, a male, aged twenty-eight, was admitted to the United States army twelve weeks before. He entered the hospital complaining of abdominal distress and acute pain. The gastric symptoms were prominent. Later diarrhoea developed and asthenia became extreme. He was bed-fast twelve days and died. No positive diagnosis was made.

At autopsy a chronic interstitial nephritis was demonstrated. The mesenteric glands, the pancreas and lungs showed tuberculous lesions. The right supra-renal was four times the normal size; its capsule was adherent, and the gland contained cheesy tuberculous deposits. The left gland was larger than the right; it was firmly adherent, and invaded by nodular growths containing tuberculous deposits.

The report was discussed by Drs. Winders and Baldwin.

J. H. J. Upham presented a pathologic specimen showing an aneurism of the arch of the aorta.

NEWS NOTES

Joseph H. Huntley, Lima, who was seriously injured in an automobile accident is convalescing.

The new home of the College of Physicians of Philadelphia was dedicated November 10 and 11. The society was organized January 2, 1787, and is the oldest medical organization in the United States. The building was erected at a cost of \$400,000, of which \$100,000 was presented by Mr. Andrew Carnegie. The library contains 100 volumes.

The State Board of Health at its meeting in Cincinnati, October 13, adopted a resolution that the state supply diphtheria antitoxin free

whenever it is needed. The board also requested the legislature to enact a law providing for the appointment of twelve medical inspectors of contagious diseases, and making medical examination compulsory in city schools, and optional in township and village schools.

A drug selling under the name of "Alypin", and a substitute for cocaine, has been condemned by the State Board of Pharmacy.

At the recent dedication of the new hall of the College of Physicians of Philadelphia, George W. Crile, of Cleveland, was elected to associate fellowship.

Prof. J. U. Loyd, of Cincinnati, is delivering a course of lectures at the Philadelphia College of Pharmacy on "American Medicinal Plants and Drugs."

The Cincinnati Obstetrical Society met October 21 as the guest of the McDowell Medical Society. J. T. Souther read his candidate's thesis on "Retro Displacement of the Uterus", which was well written and illustrated by lantern slides. He was elected unanimously. The society was also addressed by Louis Schwab.

The University of Cincinnati celebrated the union of the Ohio and Miami Medical Colleges as the Medical College of the University Wednesday, December 1, 1909.

The address was delivered by Victor Clarence Vaughan, M. D., Ph. D., LL. D., Dean of the College of Medicine, University of Michigan and was followed by a reception to the officers and guests of the University.

DEATHS

The Noble County Medical Society held a meeting in the court house at Caldwell, October 14 1909 W. S. Williams presiding. The following resolution was unanimously approved by the society:

WHEREAS, The silent messenger, whose summons none can resist or delay, has entered again

our ranks and called to his eternal home G. T. Snodde, who was a member of our medical society; a man of genial disposition, whose pleasant social qualities, whose charitableness both in judgment and material things have endeared him not only to his professional brothers, but also to his patients and all who knew him. Be it

Resolved, That we regret his loss; that we extend to his dear mother, brothers and sister our sincere sympathy in their affliction and that a copy of this resolution be sent to the family.

J. G. Albers,
W. S. Williams,
F. R. Dew,
Committee.

R. A. Stephenson, Jefferson Medical College, 1863, died at his home in Manchester October 22, from cerebral hemorrhage; age 71.

J. L. Mounts, Starling Medical College, 1856, died at his home in Morrow October 21; age 78.

L. H. Bodman, College Physicians and Surgeons, New York, 1863, died at his home in Toledo, October 18; age 69.

William Ramsey (years of practice), died at his home in Delta, October 10; age 82.

W. K. Coleman, Cincinnati Medical College, 1881, died at his home West Union, November 5; age 56.

Valentine Braun, Starling Medical College, 1853, died at his home in Toledo, October 19, from senile debility; age 80.

I. C. Wright Washington University, St. Louis, 1873, died at his home in Logan, October 7, from cerebral hemorrhage; age 64.

MARRIAGES

William C. Keller, Cincinnati, to Miss Harriette Richardson, of Glendale, Ohio, October 26.

NEXT MEETING, CINCINNATI, MAY, 1909

VOL. V

JANUARY 15, 1909

No. 1

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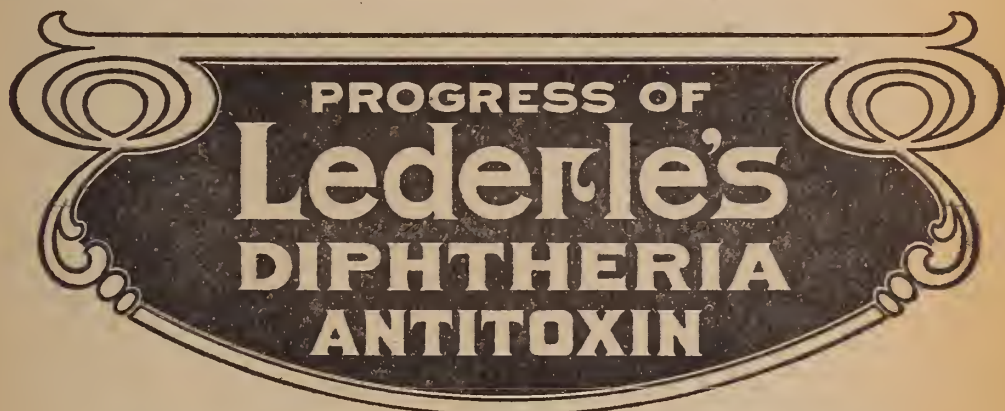
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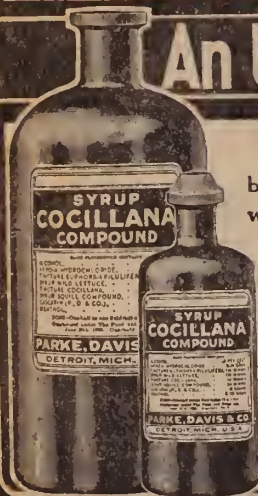
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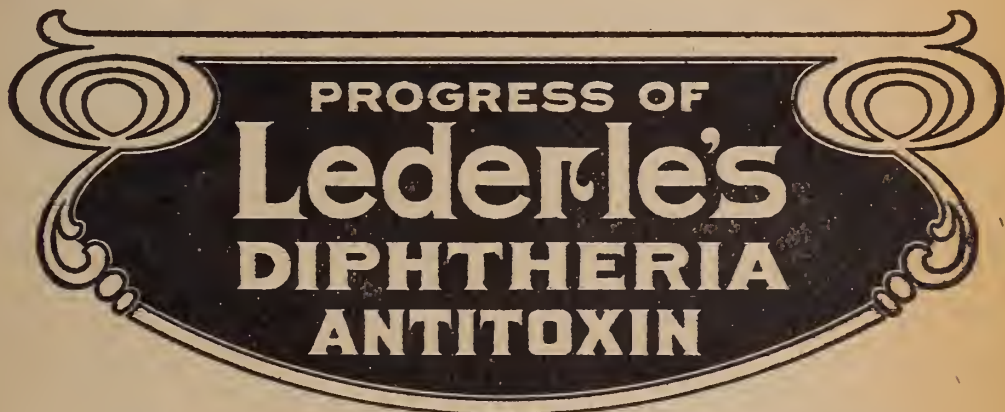
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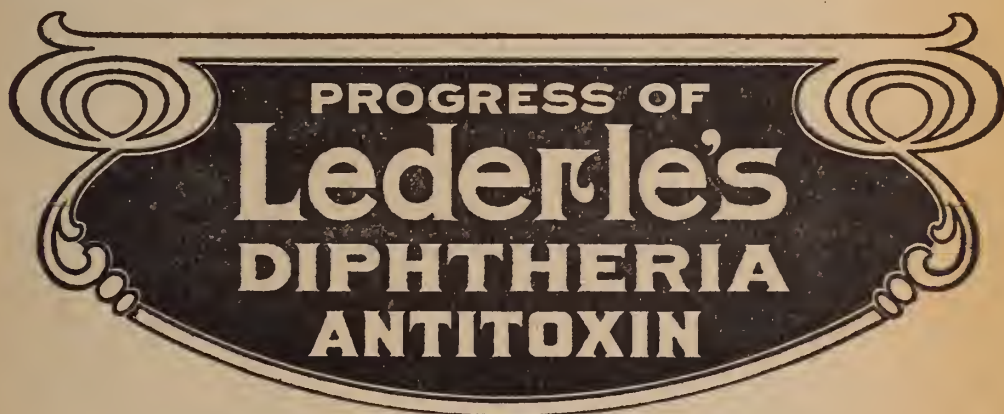
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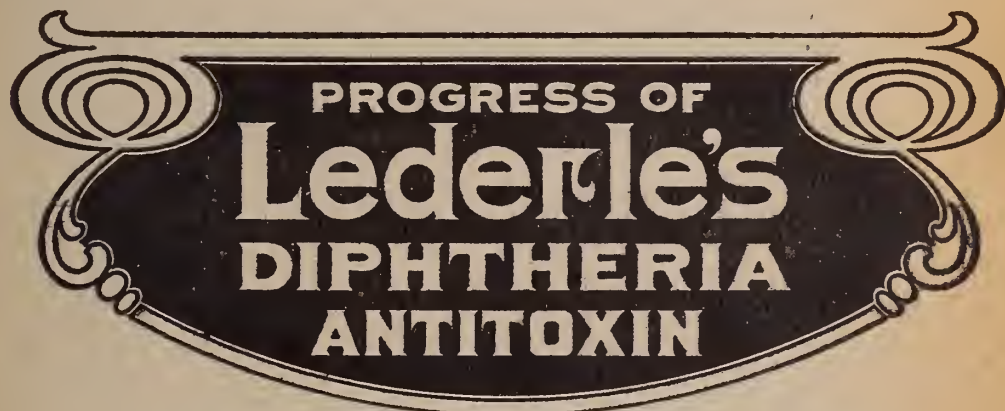
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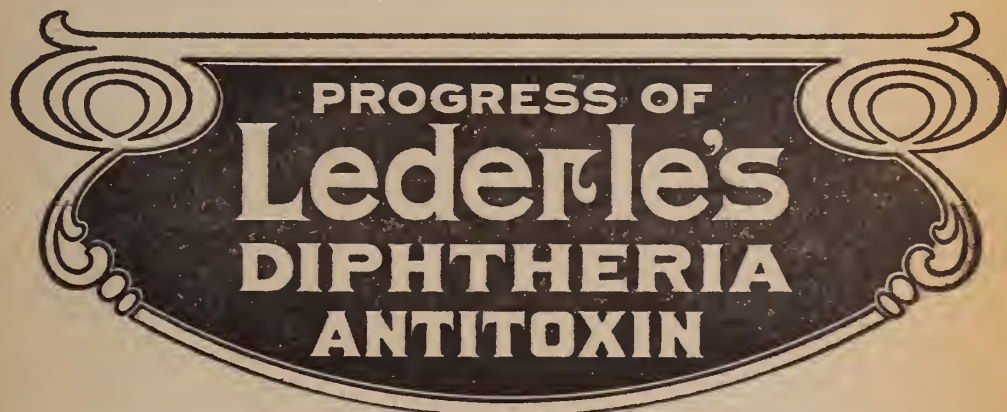
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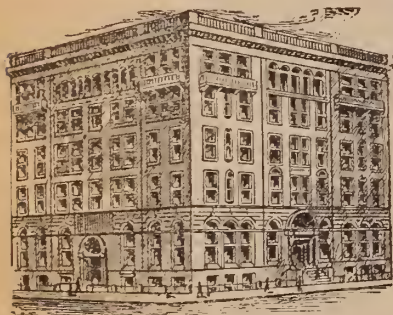
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NEXT MEETING, TOLEDO, MAY, 1910

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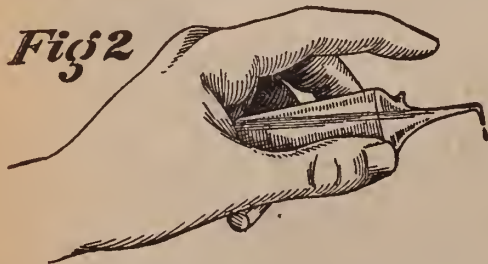
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OCTOBER 15, 1909

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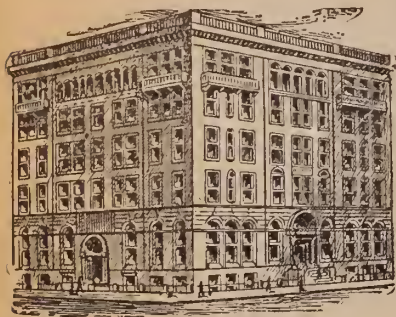
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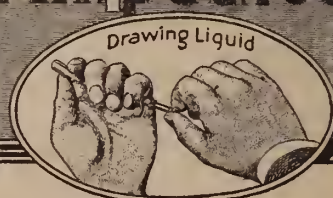
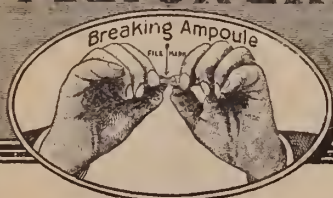
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